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Monthly Return Fares Increased

THE increase from January 1 of about 10 per cent. in British Railways monthly return fares has been caused by higher costs. Not the least of these has been the increased price of coal occasioned by the latest rise in miners' wages. In the present state of the finances of nationalised transport, there was no alternative to passing on to the public some at least of the enhanced working cost, even although the rise in fares was long deferred. It is the first since October, 1947, and since nationalisation, and does not apply to through bookings with British Railways steamer services to Ireland or the Channel Islands, or Clyde or similar railway steamers. Even now third class monthly return fares average only 1½d. a mile compared with slightly over a penny in 1939—a rise of some 75 per cent. which compares favourably with that in many retail prices. Monthly return fares, at about a single fare and one-third, are below the statutory fare (double the single); it has not therefore been necessary to seek the consent of the Minister of Transport. The British Transport Commission passenger charges scheme recently heard before the Transport Tribunal envisages alterations at the discretion of the Commission in the level of monthly return fares to meet circumstances which might arise, and the most recent increase in railway operating costs presumably is such a circumstance. The 10 per cent. rise in monthly returns is no new factor in the consideration of the charges scheme by the Tribunal. The effect of the increase on typical fares is shown elsewhere in this issue. It is unlikely to cause any considerable loss of railway traffic either to motorcoach and bus or to private car. The cost of private motoring is rising; and the difference between rail and bus fares already is big enough to influence any decision

between train and bus travel. In addition, bus and motorcoach fares, though they have risen since 1939—and indeed in the past 30 years—considerably less in proportion than railway fares, have tended to advance in the last eighteen months, and the factors which caused the road undertakings severally to seek authority for fare increases have not ceased to operate. The latest advance sanctioned in long-distance coach fares from the London area is of 6½ per cent. and will become effective on April 10. The level of these fares will then be about one-third higher than pre-war.

The C.P.R.-C.N.R. Relationship

THE Royal Commission on Transportation in Canada stated that the Canadian Pacific Railway and the Canadian National Railways should have the opportunity of operating side by side to provide the requisite services for Canada and its people. This meant, Mr. Donald Gordon, Chairman & President, C.N.R., has said, that their continued separate existence was accepted as a fact on which all other aspects of their relationship had to be based. The desirability of amalgamating them was a view now seldom heard, for experience had shown that there was not only a place for, but a need for, both. No difference of opinion existed between the two companies. They would co-operate up to, but not beyond, the point of each giving the other a single passenger or a single pound of freight. Within that principle there was no disposition to engage in foolish or uneconomic expansion of services merely for the satisfaction of getting the business. Each recognised that the public was entitled to the best service and best rate which the railways could provide, while still paying expenses and receiving a reasonable margin of profit.

Recapitalisation of the C.N.R.

THE two Canadian railways systems were, in the words of the Commission, "to serve as a check and balance on each other without destroying the opportunity of the privately-owned road to live and progress and to earn a fair revenue." Mr. Gordon agreed with this, which was consistent with the evidence given by senior officers of the C.N.R. before the Commission. The requirements and needs of the privately-owned C.P.R. should be met, but it was not necessary for this purpose to have a distorted picture of the financial results of the publicly-owned C.N.R. Recapitalisation of the Canadian National did not threaten the existence of the C.P.R. The Canadian National case for recapitalisation should be dealt with on its own merits just as the Canadian Pacific financial position should be considered on its merits. The Canadian National was "trying to clean the windows of its financial structure so that the financial results can be seen in a truer light." There was no reason to assume that the Board of Transport Commissioners would suddenly renounce its duty and therefore no reason to fear the consequences of recapitalisation of the Canadian National.

British Transport Commission Statistics

PASSENGER journeys on British Railways during the calendar month of September, 1951, were only 0·6 per cent. above those of the preceding year, despite the Festival of Britain and increased troop movements. The rise of 6·1 per cent. in second class rail journeys shows an increase over 1950 in Continental boat-train traffic, of which second class between London and Harwich and Channel ports is a large proportion: during the roughly corresponding period of four weeks to October 7, receipts from B.T.C. ships, including Anglo-Irish and Clyde services, rose by 15 per cent. compared with 1950, for which there is no apparent explanation. British Railways passenger receipts for Period No. 11, the four weeks to November 4, show the usual sharp decline from the preceding period, and slightly exceed those for Period 11 of 1950. During the period, British Railways' staff fell from 599,847 to 598,145; in the group entitled "guards, signalmen, shunters, porters, ticket collectors, etc.," the total fell to 114,802, and wastage of 2,472 was offset by only

1,426 recruits, with 124 transfers to other departments or duties. Net train-miles per freight train engine-hour for Period 11 were 8.06, against 8.21, and net ton-miles per total engine-hour 607, against 590 for the corresponding period of 1950.

Development in Uganda

EXPENDITURE of £4,000,000 on extension of the East African Railways from Mityana to Kasese in Uganda is recommended in a report entitled, "The Way to the West," by the economic survey committee of the Uganda Government. The route has already been surveyed, and a description appeared in our December 14, 1951, issue. From Kasese, sidings would lead to the Kilembe copper mines, whose initial production is expected to be some 190,000 tons of concentrates, yielding more than 24,000 tons of copper and cobalt. The committee, basing its opinion on estimates of the tonnages already available, not including the ore expected from Kilembe, declares that the line would pay its way from the beginning. It would result in other developments of minerals and agriculture. The route lies through some of the best cattle country in Africa, at present carrying more than a million head of cattle, sheep, and goats, with the prospect of important development in this sphere. Forestry development will also be accelerated. Potential mineral development includes wolfram, tin, and the rare bismuth tantalite, as well as gold and limestone; there is a remote possibility of finding petroleum, and radio-active ores are known to exist in the Toro district. The report recommends a system of feeder roads of good quality.

Buenos Aires Transport Problem

THE population of Greater Buenos Aires now exceeds five million, and one authority believes that before the end of another thirty years it will have reached ten million. In 1950 the number of passengers carried by all forms of public transport within the area was 2,640 million, of which the suburban railways accounted for 422,000,000, compared with the 150,000,000 passengers conveyed in 1939-40 by the predecessors of the present Roca, Mitre, Sarmiento and San Martin lines. These significant figures are quoted by *The Review of the River Plate* from a study by Señor F. Barres which has been published under the auspices of the Pan-American Railway Congress. It points out that despite this almost threefold increase in traffic the number of coaches has slightly declined, from 2,759 to 2,732, during this period. Each coach conveyed 145,000 persons in 1950, compared with 54,400 persons in 1940. Housing difficulties are compelling more persons to live further out, thus adding to the difficulties of handling the suburban traffic.

I.L.O. Inland Transport Committee

SOME account of the Fourth Session of the Inland Transport Committee of the International Labour Office, held in Genoa last month, is given on other pages this week. The names of the strong British delegation, including Government, employers' and workers' representatives, were given in our issue of December 7; a British delegate, Mr. Frank Gilbert, Principal Staff Officer of the British Transport Commission, was elected Chairman of the Steering Committee; as Vice-Chairman of the Session, he presided at plenary meetings. The work of the session with the greatest bearing on railway staff questions was perhaps the report and resolution of the sub-committee appointed to consider labour problems arising out of the co-ordination of transport. The resolution recommended *inter alia* that employers' and workers' organisations strive for greater equivalence in the conditions of employment in the different branches of transport, and that no measures for the co-ordination of transport be adopted without taking their social consequences into account. The Governing Body of the I.L.O. was invited to authorise the report to be communicated to the United Nations Organisation.

American Experts to Advise C.I.E.

UNDER the Economic Co-operation Administration technical assistance scheme, four United States transport experts are shortly to visit the Republic of Ireland to examine and make recommendations on the Coras Iompair Eireann system. Mr. T. C. Courtney, Chairman of C.I.E., made his announcement on his return from a visit to the United States made under E.C.A. auspices, during which he inspected the headquarters of a number of large railway and bus systems. The experts are due to arrive in Ireland before Easter and will spend some months in the country. They will study traffic, motive power, bus maintenance and body building, and the service in hotels, restaurants, and dining cars. Mr. Courtney said that in studying the day-to-day working of the departments they would get to know the problems of C.I.E. at first hand. They would then be in a position to advise the company, from their experience, on improvements which could be made to produce greater efficiency and a better service to the public.

The Engineers' Guild

MOST chartered engineers have, from time to time, realised the need for an organisation to look after their professional interests and welfare, quite apart from the engineering aspects of their work, already well provided for by technical bodies. For this purpose the Engineers' Guild was founded in 1938 and its reputation as a champion of the engineering profession has become widely known. The President of the Guild, Mr. Robert Chalmers, attaches great importance to branch activity, and points to the encouraging fact that of 13 branches projected in 1948, only two now lack branch committees and one at least of these gaps will be filled soon. Remarkable progress has been made by the Overseas Branch which has shown commendable initiative in its representations. One problem to be dealt with, various aspects of which have been considered already, arises from the fact that large employing bodies, which naturally wish to restrict the number of staff organisations with which they have to deal, negotiate terms and conditions of service with general staff associations within their own industries or with associations and unions much larger than the Guild. Solution of this problem would seem to lie only in a great increase in Guild membership.

East African Railways New Stock

AS pointed out in an editorial article in our October 5 issue, passenger and goods receipts on the East African Railways & Harbours for 1950 were the highest yet recorded. Parcels and luggage traffic also showed a considerable increase over previous years because larger quantities of commodities such as cotton piece goods were forwarded by passenger train. The shortage of upper class passenger stock was particularly felt when dealing with long-distance journeys. With a view to overcoming the shortage of stock the Crown Agent for the Colonies placed orders with the Metropolitan-Cammell Carriage & Wagon Co. Ltd. for 13 second class carriages and five bogie parcels' and brake vans, the latter to be attached to passenger trains in the Tanganyika Section. The parcels and brake vans have already been despatched and the construction of the passenger stock has reached an advanced stage. The rolling stock, which is described and illustrated elsewhere in the issue, is of all-steel construction with riveted and welded underframes. A feature of the design is that the bogies, although built to the metre gauge, can be converted to 3-ft. 6-in. gauge.

Locomotives for Ceylon

THE Ceylon Government Railway will shortly take delivery of six 5-ft. 6-in. gauge locomotives recently completed by W. G. Bagnall Limited. The engines have a maximum permissible axleload of nine tons and are of plate frame construction; the frame plates are $\frac{1}{2}$ in. thick and suitably stayed by cross-stays of plate-frame design.

Cast-steel axleboxes are provided, these being fitted with renewable steel liners on the wearing faces, and lubrication is by means of Ajax lubricators. Cast-steel axlebox guides are also provided with renewable liners. Outside cylinders of cast iron are included and steam distribution is effected by 8-in. dia. piston valves actuated by Walschaerts valve gear. A round top boiler is fitted, the barrel of which is made of two rings, the smaller being 4 ft. 4½ in. inside diameter; the plates are ½ in. thick. The internal firebox is of welded construction. The back plate and wrapper is ½ in. thick and the tube plate ½ in. thick. Further details of the design, which is for mixed traffic working, are given elsewhere in this issue.

Traffic Costing

THE establishment by the British Transport Commission of a Traffic Costing Service is announced in our personal columns this week. That such a service was about to be set up has been known for some weeks, and this, and the desirability of some such means of inquiring into profit and loss from various activities of nationalised transport were referred to by our correspondent in the editorial article on the "Control of Capital Investment" in our issue of December 7. The newly-appointed Director of Costings, Mr. A. W. Tait, describes in an article in the December, 1951, issue of the *British Transport Review* the contribution which traffic costing can offer towards solving the problems of transport integration.

A commencement in traffic costing was made by the B.T.C. in 1949-50, after preliminary study of methods and resources, with some experimental sample investigations into the cost of rail and road passenger and freight operation. The method of sampling was chosen because general average costs covering a wide variety of transits would be of little practical value. In the review of accounting and statistical records now being made by the Commission account is taken of the value of having information available for *ad hoc* costing investigations without resort to special tests. Priority has been given to comparison between rail and road transport costs, where there is the greatest conflict of interests.

The main objects of the B.T.C. Traffic Costing Service are the further study of rail and road transport costs and provision of advice on all problems to which traffic costs are relevant, with particular reference to co-ordination of rail and road transport. Earlier railway charges were based on a rough-and-ready calculation of costs, shown in the survival today of a terminal element and mileage rate—which bear hardly any relation to actual costs. When the limited traffic monopoly possessed by the railways enabled them to generalise charges on what the traffic would bear, costing was confined to operations such as terminal handling or cartage. Movement costs were only calculated as a check in quoting exceptional rates for important traffics. In the case of road haulage, only a few firms adopted traffic costing systems. Road passenger undertakings found records of average costs per mile and of manpower resources, fuel, and vehicles used, sufficient for efficient operation.

Mr. Tait is of the opinion that the reasons why traffic costing is the more necessary today are, first, the present size of the nationalised and other transport undertakings, which increases the difficulty of centralised control, and, second—and more important—the necessity for a proper division of function between rail and road. In the latter case, although freedom of choice for the transport user eventually may settle the matter, waste of economic resources will be saved by cost accounting, which can determine the charges at which the balance of demand at a certain price and supply at a certain cost is maintained. Thus, if rail charges are too high for transits with low costs, there will be uneconomic development of competing road services.

The general costing method used so far has been to break down operations into smaller parts for separate detailed study, following the pattern of physical operations which can be expressed in terms of a primary statistical

unit such as the cost of engine power per train-mile. Differences of cost in various samples of each operation have been studied to ascertain the causes of variation, and standard costs selected as typical of normal variations in circumstances. The standard costs are then used "to clothe details of the physical operation of a particular traffic, the circumstances of which are known." For instance, if the class of engine, the number and type of coaches and their weekly mileage are known, and the sets of enginemen needed, the cost of a passenger train can be calculated with reasonable accuracy. Mr. Tait emphasises the time factor; a transport undertaking sells distance and terminal services, and the better the use made of time—as in hours per ton, wagon-journeys per annum, and so on—the cheaper the cost. He comments on the difficulty of apportioning general railway costs such as those of signalling, which are common to all railway services.

In drawing the distinction between direct and indirect costs, Mr. Tait states that the common and convenient, rather than exact, conception of direct cost "represents a minimum below which it might well be dangerous . . . to allow the charges for any considerable flow of traffic to fall." The most important distinction, he maintains, is between costs related to movement, expressed per ton-mile or passenger-mile, and those incurred irrespective of the length of haul, which are expressed per ton or per passenger.

Sample costs of road passenger operation on particular routes have been determined so as to supplement costs recorded for complete undertakings. These confirm that bus operation depends largely on good use of vehicles and manpower, and also on speed. Road haulage cost samples resulted in formulae which followed closely those recommended by the report of the Road Haulage Association Rates & Charges Committee ("Fawcett Report").

Railway passenger transport costs were obtained by sampling varieties of traffic, and some account is given by Mr. Tait of the various conclusions reached, including one that "given a reasonably good average load throughout the year—say, 60 per cent.—the cost per passenger-mile . . . will approximate to that on the motorcoach service with an average load factor of 90 per cent." Terminal facilities and documentation are at least sixpence a railway passenger-journey, but are relatively insignificant in road passenger transport.

The costing of railway freight traffic is more complex. The chief cost ingredients are wagon provision and maintenance, wagon terminal, marshalling, and wagon haulage costs, and Mr. Tait describes how these were determined. Thus the medium-size station seems to be the most economical unit, whereas large and small stations are more costly per ton handled—but for quite different reasons. Comparison of rail and road freight transport confirms the generalisations of the B.T.C. statement of policy on integration. The costing method provides a yardstick for arriving at a division of function, but its application must be to local circumstances, and if it is used for this purpose, the solution will not be the same in every area.

Canadian National Railways

ALTHOUGH the international situation has played a part in stimulating economic development in Canada as in other countries, giving added impetus to the establishment of new sources of strategic materials and influencing the trend of industrial growth, the marked expansion which has taken place during the past twelve months represents in general a continuation of a phase which began in 1938, and which has proceeded without interruption ever since. Improved technologies have given greater scope to initiative and enterprise, and have resulted in the opening up of areas the significance of which has been appreciated for some time, but whose resources were not previously considered as economically workable. With these developments the railways have been intimately associated, and at the present time engineers and development officers of the Canadian National Railways are working in close liaison

with both Government and industry, whose combined planning indicates that more than \$600 million will be spent in the immediate future on industrial plant and other work along the C.N.R. lines.

Mr. Donald Gordon, Chairman & President, Canadian National Railways, in reviewing C.N.R. progress in 1951, refers to the commencement of the construction of a 147-mile line from Sherridon, Man., to Lynn Lake, where an important property is being developed for the recovery of nickel and other metals, and to preliminary surveys started that will result in the completion of a 46-mile link from Terrace, B.C., to Kitimat, where a water power and refinery project costing some \$500 million has been started by the Aluminium Company of Canada. These are but two of the major projects in hand.

The roster of diesel locomotives has been increased by 108 units. These have been placed in service and delivery is now awaited of 57 additional units for which orders were placed with manufacturers during the year. Through freight services are now being operated with diesel power between Halifax, Montreal, and Toronto, and between Montreal and the Lake St. John district, and diesel locomotives are being used in regular service on lines and in terminals in every part of Canada. During 1951 the C.N.R. received 5,205 units of new freight wagon equipment and 70 units of new passenger train equipment. More than 1,000 units of rolling stock are now on order.

Some concern is felt by Mr. Gordon that the revenue from increased freight traffic and higher freight rates is not keeping pace with rapidly mounting operating costs. The biggest increase last year was in the wage bill, and the granting of a 40-hour week with wage increases has created a heavy additional burden of operating expense that is bound to be reflected in the net income account. Another problem is the growing competition from highway carriers and the question of road-rail competition is one to which the railways are giving a great deal of study.

Early last year the report of the Royal Commission on Transportation was published and some of its recommendations have formed the basis of legislation which is now being examined by Parliament. Included among these is the principle of freight rate equalisation which involves primarily a conflict of interest between shippers. Implementation of corrective measures recommended for adjusting the capital structure of the C.N.R. would, said Mr. Gordon, do a good deal to dispel the fog of misunderstanding which had surrounded their financial results, and bring into sharper focus the real contribution made by the system to the economic life and security of the nation.

A study of the capacity and design of storage yards was begun during the year. This resulted in work being started on an extension of the Turcot Yard in Montreal to provide an increased capacity of 2,500 wagons. In Toronto and in Edmonton freight facilities are being enlarged to take care of the growing volume of traffic.

Forty Weeks of Railroading

THE Association of American Railroads was formed in 1934 to be a central agency for securing co-operation between the U.S.A. railways. Without either managerial authority or powers of control over member companies, the Association shapes the general policy of the railway industry and influences the trend of development in railway construction, maintenance, equipment and operation. In effect its activities ensure that the 132 Class 1 railways in the States constitute for many purposes a unified system. Systematically and promptly, the Association places the facts about the railway situation before the American people. At the beginning of October, for instance, the monthly statement of railway revenues and expenses showed that, for the 8 months ended August, net railway operating income was nearly \$43 million (7.7 per cent.) below the 1950 level. The Press and the public thus understand why the railway companies are not satisfied with the 6.6 per cent. increase in freight rates authorised in August and are pressing the Interstate Commerce Commission for a further advance.

On October 19 a second monthly bulletin gave a useful survey of the general transport situation during the first 40 weeks of this year. Seasonal freight movements were described and up-to-date information about freight rolling stock was supplied. It is no mean feat to gather together particulars for 225,000 route miles of railway and print them within a fortnight of the closing date, October 6. The bulletin came to hand about the same time as the British Transport Commission issued No. 10 of *Transport Statistics*, covering the same period of 40 weeks. In the absence of an official commentary on British Railways' results, an attempt is made in this article to draw some comparisons between the work of our State-owned system and the performance of the privately managed lines in the States.

During the 40 weeks in question, British Railways forwarded 26,974,000 wagons under load, a decrease of 377,000 from 1950 (1.4 per cent.). Though the tonnages of merchandise, minerals, and coal were all higher, fewer wagons were used to carry each class of traffic because loading was better. Yet the average wagon, with a capacity of 13 tons, contained less than 8.1 tons on starting its journey. Coal and coke accounted for nearly 60 per cent. of the total originating tonnage and were loaded at the average rate of 300,125 wagons a week, the average wagon carrying between 11 and 11.5 tons. Minerals loaded to much the same weight, but the average load of merchandise was slightly below 4 tons.

U.S.A. wagon loadings numbered 31,201,000, an increase of 1,838,000 on 1950 (6.3 per cent.). The average wagon had a capacity of 52.6 tons and carried a load of 32 tons. More full wagon loads of all groups of commodities were carried, but less-than-wagon-load traffic declined by 8.2 per cent., and seems fated to fade out completely at no distant date. Coal and coke were loaded at the average rate of 156,220 wagons a week, each wagon holding more than 56 short tons. While our overseas coal shipments shrink in volume, the States are increasing their exports to record heights. In the 9 months to September, they exported 21,800,000 gross tons, against only 1,251,000 tons in the same months of 1950.

The tonnage of iron ore carried by British Railways in 1950 has not been stated precisely, but was probably not more than 13 million tons. The U.S.A. railways carried 104.5 million tons in 1,656,200 wagons. The average wagon load was 63 tons and produced a gross revenue of \$105. The largest wagons in use in this country hold 27 tons of ore. Some of the "heavy" lines in the States employ a considerable number of 90-ton wagons. The Bessemer & Lake Erie, which connects the Great Lakes with the Pittsburgh district, had a wagon load of 74 tons last year and hauled a net train load of 3,824 tons at 13.5 miles an hour.

This year the American steel industry is making unprecedented demands for iron ore. To October 8 the Upper Lake ports shipped 74.3 million tons against 61.5 million in the same period of 1950, an increase of 20 per cent. The railways took this traffic forward to the furnaces and in addition brought 5 million tons by all-rail routes from the Northwest mines. By the end of the year the Lake shipments may amount to 91 million tons and the direct rail carryings to 6 million. If that happens, the total movement of 97 million tons from the Northwest orefields will be a record.

The steep fluctuations in America's bulk traffics, such as coal, ore, grain, and even perishables, throw a great strain on railway rolling stock. Wagon shortages occur daily, but not to an alarming degree. On October 1 the railways had 31,670 more wagons available than in October, 1950. The total stock increases month by month, as deliveries of new wagons exceed withdrawals, and the number of wagons awaiting repairs represents only 5.3 per cent. of total stock. The position on British Railways is not so good. At October 7 the total wagon stock was 3,710 higher than in January, but the number of wagons available was 9,680 less. A high repairs percentage of 7.7 meant that 86,000 wagons were unserviceable.

The locomotive position on October 7 was similar. British Railways had a net stock of 18,896 locomotives, 79 fewer

than in January. The number under repair, 3,471 or 18.3 per cent. of net stock, was the largest in any 4-week period since October, 1950, with the result that 156 fewer engines were available than in January. This year 248 new engines have gone into traffic and 640 have been withdrawn from service. During September, the U.S.A. railways installed 207 diesel locomotives, bringing their fleet of these powerful machines up to 11,670. They also placed orders for 444 diesels, making the total number on order 1,827. The stock of steam locomotives was reduced by 3,000 in the 12 months to the end of September and then stood at 22,920. One out of every seven steam engines was out of traffic for repairs, contrasted with one out of every 82 diesels. The almost ceaseless service rendered by the diesels explains why only two new steam engines were installed in September and no more than 15 were ordered. The extended use of diesels has been a main factor in maintaining fluidity of movement in spite of increasing traffics, physical difficulties such as the Mid-West floods, shortened working hours, for the staff, and spasmodic labour troubles.

The changeover from steam to diesel traction is an example of the readiness of the U.S.A. railways to adapt their working methods to meet new conditions. American railwaymen will not understand why our Railway Executive is perturbed about a possible increase of 3 per cent. in freight tonnage during the 30 weeks from October, 1951, to March, 1952. Such an increase would represent about 170,000 tons a week and would leave the total tonnage well below the traffic handled in a number of years between 1913 and 1937. In October the average ton was hauled 76 miles, about 16 miles longer than the pre-war distance. An American would not regard that as a tremendous task, for his railways haul the average ton 416 miles, about 65 miles further than in 1939 and nearly 100 miles further than in 1929. Compared with 1939, originating tonnage is up 50 per cent. and ton-mileage is 70 per cent. larger. The railways have coped with this rise in the volume of traffic by working more "net ton miles per serviceable wagon per day" and have justified the dictum of the A.A.R. President that "meeting emergencies through organised co-operation is a living tradition with the railroads."

Freight Movement on British Railways

(By a Correspondent)

IN its issue of October 12, *The Railway Gazette* announced that the Railway Executive expected traffic to increase by 5,060,000 tons during the 30 weeks beginning October 1, or by some 675,000 tons in the average four-week period. Actually, in the first such period, to November 4, No. 11 of *Transport Statistics* records that originating tonnage was 25,000 tons less than in 1950. A decrease of 81,000 tons in merchandise and livestock swamped increases of 20,000 tons in minerals and 36,000 tons in coal.

Table 1 below shows that the Western and Scottish Regions were the only two "heavy" areas to have increases. In the London Midland Region merchandise was down by 21,000 tons (1.6 per cent.), minerals were up

I. FREIGHT TRAIN TRAFFIC—FOUR-WEEK PERIOD TO NOVEMBER 4

Region	Tons originated (000)	Increase or decrease, per cent.	Ton-miles (millions)	Increase, per cent.
London Midland	6,561	—	671	3.9
Western	4,019	+ 3.9	340	1.6
Eastern	3,681	— 4.5	396	1.7
North Eastern	5,136	— 0.9	187	3.1
Scottish	2,886	+ 1.1	199	3.5
All Regions	22,991	— 0.1	1,879	3.3

127,000 tons (8.2 per cent.) and coal forwardings declined by 113,000 tons (3.1 per cent.). In contrast the Western Region originated 137,000 more tons of coal (6.2 per cent.) and had a total increase in all traffics of 151,000 tons (3.9 per cent.).

The second section of Table 1 indicates a disproportionate rise to 1,879 millions in net ton-miles (3.3 per cent.), all Regions sharing in the increase. The average haul of merchandise and minerals was nearly three miles longer; the average ton of coal went 1.8 miles further. For all classes of traffic a haul of 76.7 miles was longer than in any 4-week period of 1949 or 1950, but was below the March and August figures.

The second table sets out the statistics which measure freight movement. In the case of the first three items, the figures in brackets show the percentage variation from 1950; the actual increase or decrease for the other items is shown.

2. STATISTICS OF FREIGHT MOVEMENT—FOUR-WEEK PERIOD TO NOVEMBER 4

Region	All Regions	London Midland	Western	Eastern	North Eastern	Scottish
Freight train miles (000) ...	11,322 (-0.8)	3,576 (-2.9)	2,012 (-1.1)	2,194 (-0.6)	1,172 (-1.8)	1,723 (+3.0)
Train engine-hrs. in traffic (000) ...	1,405 (+1.2)	533 (+0.5)	247 (+4.6)	268 (+0.9)	115 (-4.2)	168 (+0.8)
Ton-miles per train engine-hour ...	1,107 (+1.8)	1,038 (+3.3)	1,083 (-3.6)	1,248 —	1,426 (+8.6)	990 (+2.9)
Wagon miles per train engine-hour ...	218 (-5)	202 (-3)	207 (-16)	237 (-8)	269 (+14)	221 (+3)
Freight train speed (m.p.h.)	8.06 (-15)	6.71 (-24)	8.16 (-46)	8.18 (-12)	10.14 (+25)	10.25 (+21)

The results for the North Eastern and Scottish Regions are satisfactory. The slowing down in the Eastern Region is disappointing, as it forwarded 22,000 fewer wagons and its lines were relieved by a 6.1 per cent. reduction in coaching steam train-mileage. An increase of 4 tons in train load to 180.5 tons may account in part for the lower speed.

The disquieting feature of the statement is the loss of mobility in the London Midland and Western Regions. The London Midland results are little better than they were in the difficult period to March 25. The Region forwarded 30,000 fewer loaded wagons (3.6 per cent.) and worked 107,000 less freight train miles. The occupation of running lines was lightened by a cut in coaching steam train miles of 191,000 (4.6 per cent.). Yet freight train speed dropped to 6.71 m.p.h., compared with a speed of 8.16 m.p.h. in the Western Region. The output of freight train operation, as measured by net ton-miles and wagon miles per train engine hour, was also below the level attained in the Western Region, which in turn fell behind the Eastern and North Eastern Regions.

The Western Region figures suggest that more traffic arose there than could be moved with despatch. A 3.9 per cent. addition to tonnage went with a rise of only 1.6 per cent. in ton mileage. Although freight train miles were 22,000 less, freight train engines spent 11,000 more hours in traffic and worked in the average hour 41 fewer net ton-miles and 16 fewer wagon miles. The natural deduction is that some locomotive power was used unprofitably, and that a fairly large standage of loaded wagons occurred.

It is to be hoped that the railway position has not weakened further since November 4. In *The Railway Gazette* of December 14, an article by "A Railway Operating Officer" discussed the factors which influence the operating results of the London Midland Region. The questions raised are important enough to form the subject matter of a separate discussion in a later issue of this journal.

TOHILL PRESS LIMITED.—Tohill Press Limited, the company owning and publishing this journal, has taken a 99-years' building lease on the triangular site of St. Margaret's School, Dean Farrar Street, Westminster, at the rear of its present offices. The site, which covers nearly half an acre, is owned by the London Diocesan Board of Education, and in due course offices consisting of basement, ground and five upper floors are to be erected and used for the purpose of developing the company's business.

LETTERS TO THE EDITOR

(*The Editor is not responsible for the opinions of correspondents*)

St. Pancras Hotel

December 27

SIR.—Mr. Kenneth Brown's deduction as to the date of the Midland Grand Hotel in your December 28 issue, page 706, is not entirely correct, as it has ignored the difference between opening and completion. Actually the hotel was built in 1871-2, and opened on May 5, 1873, but work on the curved west wing, although part of the original design, was delayed for financial reasons, and it was not completed until the spring of 1876. It is the last-named date which Mr. Kenneth Brown deduces. The original hotel, built by Jackson & Shaw, had a frontage of 390 ft. (including the 55 ft. of the central tower); the west wing added 175 ft., making the total frontage to the Euston Road 565 ft.

It is of interest that the Midland Railway directors required the building materials to be obtained, so far as possible, from places accessible by the Midland Railway. The facing bricks were from Nottingham; the stone was Ancaster, red Mansfield, and Park Spring; and the slates from the Swinland and Groby quarries, Leicestershire. Dark red granite from Shap, in Westmorland, was introduced in the arch of the gateway tower.

The use of the whole of the first floor of the hotel by Ernest Terah Hooley (who migrated to London from Nottingham early in 1895) involved a rent of £200 a week.

Yours faithfully,
CHARLES E. LEE

London, W.C.1

Keeping Branch Lines Open

December 8

SIR.—One must sympathise with the difficulties of the Railway Executive when it is confronted with statistics showing that a branch as at present worked is unprofitable. The Executive has such an elephantine business to control that its time must be filled in dealing with far more important and profitable matters than the possibility of running a few branch lines at a profit.

The lesson, I would suggest, is that the Executive is too distant and preoccupied with other affairs to manage such lines successfully. When its statistics show a persistent loss on such a line, it should endeavour before closing it to revitalise it by leasing to some local management that would be more directly and exclusively interested in the affairs of the line. Few would be willing, remembering how railway shareholders have been expropriated in recent years, to subscribe towards the purchase of a complete branch, but many might be willing to subscribe towards leasing one. Some of the local inhabitants would probably find it worthwhile to help to keep their local line open.

Manufacturers of railway equipment might co-operate to give themselves a testing ground for their equipment. Railway students' circles and clubs would find it far more interesting to take part in the management and operation of a railway than to sit by the wayside spotting engine numbers, or getting lyrical about the doings of other people in bygone days or critical about what other people are doing now.

Someone may reply that the Executive must statutorily retain ownership of the railway. That argument should be met by the suggested leasehold arrangement which would correspond to that by which the Indian Railway Board successfully farmed out the operation of many of its railways for many years. It may be said that the Executive must retain certain powers of co-ordination: there should be little objection to co-ordination provided it does not result in there being nothing left to co-ordinate.

It may also be said that no management can do better with standard equipment, standard methods of working, and standard staffing arrangements, but if unorthodox equipment is necessary to ensure a profit, the local manage-

ment should be free to use it. It should be equally free to adopt its own working rules, except at junctions where it would be necessary for its men to work alongside British Railways employees. As regards staff, there cannot be any value in maintaining regulations intended to improve conditions of service, if maintenance of the regulations results in termination of service. It might be desirable to run a line as a co-operative staffed by shareholders only, so that there would not be employees at all, only self-employed partners.

Operation of minor branches on lease by local management should relieve the Railway Executive staff shortage, as the local management could tap the large reserve of retired railwaymen still fit for relatively light duty. Such independent operation of minor branches might easily develop equipment or methods which could be copied by the Railway Executive to improve the profitability of other branches.

Yours truly,
O. P. EDMONDS

Insein, Burma

London's Next Tube

December 16

SIR.—In the details for this new line it is stressed that there should be a suburban extension at each end, but it seems curious that only one at each end is suggested. As the train service in the Central Area will need to be more frequent than in the suburbs, an opportunity is being missed by not linking the line with more than one suburban branch.

The former G.E.R. branches to Palace Gates, Enfield Town, and Cheshunt (*via* Churchbury) could be electrified on the fourth rail system, and linked to the tube system. The suburban sections of the Cambridge main line will presumably be electrified at 1,500 V. overhead. A service from these lines to the City could also be provided by a link from near Stoke Newington to Dalston Junction, and thence on the existing line to Broad Street, now relieved of Poplar traffic. The four tracks to Bethnal Green to Hackney Downs would become available for the Cambridge line traffic, and might be arranged with the slow lines in the centre and the existing up platforms at London Fields and Cambridge Heath converted to islands.

At the south end, a stub branch is proposed from West Croydon to East Croydon. Why not construct this as an extension of the existing Wimbledon-Mitcham-West Croydon line? The improved connections to the South at East Croydon would greatly increase the usefulness of this South London connecting link.

It is noticed that the tube is to be of small diameter. This again seems to be a great pity. Opportunity might well have been taken to bring the line to the surface at Victoria, and to divert inner suburban Southern Electrics into it, but the smaller carrying capacity of the tube trains would prevent this in the scheme as suggested. In the 1949 report the reason for choosing a small diameter for this tube was given as solely to provide platform interchange at Oxford Circus, which for engineering reasons could not be done with a large tube. But provided the interchange is convenient, is platform interchange so essential?

Yours faithfully,
R. G. R. CALVERT

10, Bolton Avenue, Windsor

PARAGUAY CENTRAL RAILWAY.—Because of a heavy programme of expenditure on maintenance and renewals the board of the Paraguay Central Railway Co. Ltd. has asked the committee representing the prior lien and "A" debenture stockholders to grant an extension of the moratoria, in respect of interest payments on those stocks, for a further year to January, 1953.

THE SCRAP HEAP

A St. Pancras "Legend"

A correspondent to "John o' London's Weekly" draws attention to the saying "St. Pancras Station once stood on Mapperley Hills." It derives from the fact that in the Mapperley Hills north of Nottingham are the clay-pits from which, by repute, the bricks for that terminus were taken. As the correspondent says, "given a few hundred years, the sentence, unearthed from some ancient dust-heap, might give material for quite a nice little legend." According to the journal, the saying is not much in evidence today, but at the beginning of the century was always told to newcomers.

The Ferro-Equinologist

An American dictionary has provided Mr. Donald Gordon, Chairman & President, Canadian National Railways, with a new word to describe those interested in railways. Addressing the Toronto Railway Club at a dinner at which some non-members were present, Mr. Gordon found difficulty in selecting a comprehensive word to describe them. "Fellow railroaders," he said, "might do as a term of reference, but it would not be entirely adequate. However, I think there is a term that can be used accurately to include everyone in this room, and I am indebted for it to two Americans, Funk and Wagnall.

"They have recently issued a revised edition of their famous dictionary, and I was intrigued by a press cutting about it which conveyed the information that the revised dictionary now gives official recognition to a word which will fascinate you as much as it did me. The word is ferro-equinologist and it means 'one who is interested in the lore of the iron horse.'"

Convey me, Convey my Dog

I found myself boarding the night train to London at a Scottish station with a first-class ticket, a third-class sleeper (the first class sleepers were all occupied), and a retriever, whose dog-ticket had cost 25s. Ever since I can remember there has been a rule that dogs are not allowed in sleepers, and ever since I can remember breaches of this rule have been connived at.

British Railways, however, are evidently tightening things up; the attendant, a nice man, produced two typewritten directives laying it down that "dogs will in no circumstances be conveyed in sleeping cars." Mine is a very sensible dog, and a good travel'er, and I knew he would be all right in the guard's van; but I also knew that he would worry a great deal and that I should worry a bit at the thought of him worrying, and when I bought transportation for 25s. I hadn't intended to buy worries as well.

So I renounced my third-class sleeper—arousing incomprehension and disapproval in the nice attendant—and the dog and I slept very comfortably in an empty first-class compartment. I sup-

pose the Railway Executive, being the sort of institution it is, was more or less bound to take a strong line about dogs in sleepers; but things seemed to work well enough under the old system—the dog was happy, the owner was happy, and the attendant got a large tip—and I doubt if the stern new system can be counted among the blessings of nationalisation.—Peter Fleming in the "Sunday Times."

Changed Identities

A woman recently convicted of attempting to avoid paying her underground fare was said by the prosecution to have changed identities with her daughter to deceive the authorities. She travelled with a season ticket which had been issued to a man. When this was pointed out, she said that she must have picked up her son's ticket by mistake, but had a valid ticket at home. Her daughter, it was stated, then wrote to the London Transport Executive saying that it was she who had been found travelling with the man's season ticket. A ticket collector said it was the mother he had stopped.

Those Autocrats

(See the Scrap Heap of December 21, 1951, for High Court Judge's comments on stationmasters)

When I pressed for confirmation George removed his smart top hat, Mopped his brow and countered quickly:

"Me—a Crimson Autocrat?
"Disregard the tasty trimmings,
"Hats can hamper, coats can cramp,
"Sometimes I feel like a batman
"Or a mobile rubber stamp."
"Class me rather with those princelings
"Gilbert loved to contemplate,
"Who were sent on little errands
"For the Ministers of State."

So I sought my pal at Piffley,
Just a short way out of town.
"Autocrat? Don't be so dopey—
"I wish I had half-a-crown
"For each silly crack-pot question
"Shot at me in triplicate—
"I'm a target for all grousers,
"I'm a bally buffer state!"

Foiled, I chased his country cousin;
He, of course, could not be found,
For, with half-a-dozen stations,
What a chance to go to ground!

Foreman Smiggly said: "No comment
"On a caper of this sort—
"I might find myself in Brixton,
"Purgin' my contempt of court!"

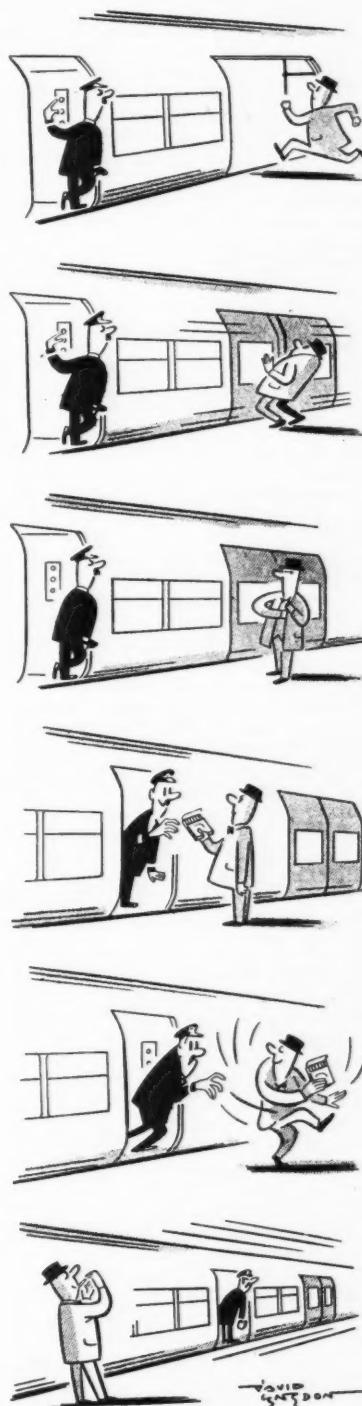
Parcel-porter Progg said darkly,
But with bias scarce concealed:
"I could say a lot, but—lumme—
"Just for once me lips are sealed."

Stationmasters, don't be worried
By this bit of legal chat;
Put it down to where it comes from
And just let it go at that.

SCORPIO

Elephants Cut Line

Communist insurgents used elephants to rip up a mile of track of the Burma Railways about 25 miles south of Mandalay.—From "The Daily Telegraph."



(Reproduced by permission
of the proprietors of "Punch")

OVERSEAS RAILWAY AFFAIRS

(From our correspondents)

INDIA

All-Steel Third Class Coaches

To provide increased facilities for third class passengers, the East Indian Railway planned to build all-steel third class coaches. In the 1951-52 programme, 101 had been turned out of the Lillooah and the Kanchrapara Shops up to the middle of November last, and a few more are expected shortly. In addition, 27 new third class coaches have also been turned out of Kanchrapara; they have been used on suburban services on the Howrah and the Sealdah Divisions.

More H.A.L. Coaches

On December 15, Hindustan Aircraft Limited delivered the 100th coach of model 407, an improved type of all-metal third class broad-gauge coach. It is one of 300 coaches being built for the Indian railways. The model is an improvement over its predecessor, model 404, of which 100 have already been delivered.

Model 407 embodies many safety features, including anti-telescopic structure. There are more fans and lights, stainless steel sanitary fittings, wash-basins with mirrors, and wider seats and bunks. "Embarkation lights," which are all automatic in action and are used to illuminate the exterior of the train during halts, are provided. The 100 coaches of Model 407 so far built by the firm have been distributed to the different Indian railways as follows:—Eastern Punjab Railway, 65; Western Railway (B.B.C.I.), 26; Southern Railway (S.I.), 1; and Central Railway (G.I.P.), 8.

SOUTH AFRICA

University Courses for Students

A scheme to grant financial aid to promising technical officials on the railways, enabling them to take university courses, was recently announced by the Minister of Transport. The intention is to select 12 apprentices or learner-draughtsmen yearly and to give them the opportunity to qualify as full-time students for the degree of B.Sc. in civil, mechanical, or electro-technical engineering. After graduating, apprentices in the Airways Department will be considered, subject to a favourable recommendation by the university authorities, for another two years' specialised training in aeronautical engineering overseas. The assistance will amount to £300 a year, a bursary of £150 and an interest-free loan of £150 a year.

Candidates must have matriculated or have an exemption certificate and must have passed at least Part III of the National Technical Certificate examination, with distinction in one or more subjects. They must also have done at

least one and a maximum of three years of their apprenticeship or training as draughtsmen. Apprentices and draughtsmen who receive financial aid will be required to work for the railway for at least five years after their return to the service.

Prospects on the railways for young engineers are being substantially improved. The post of pupil engineer in the civil engineering, mechanical, electro-technical, and signals departments is being abolished and replaced by the grade of junior engineer. The starting salary in this grade is being raised from £411 to £480 a year. The young engineer who now joins the railway service will rise in three years to £580 a year, instead of £511 under the old scales. There are many other similar improvements in salaries. It has also been decided to help junior engineers to buy their instruments. They will be able to select their own instruments on a loan of up to £275 free of interest, repayable in 48 equal instalments.

CHINA

Construction of New Railways

Completion is reported of another section of the railway to Chengtu, which has been opened as far as Neichiang, about half-way along the 330-mile route. The importance of this line is in providing a more efficient outlet for the produce of the Chengtu plain by shipping it down the Yangtze from Chungking.

A project also completed recently is the extension from Laipin, in Kwangsi Province, to the Indo-China border at Chennankuan, thus linking the northern and southern borders of China by rail. This line is primarily strategic.

CANADA

Line to Kitimat

The Minister of Transport said in the House of Commons that he hoped that next year Parliament would authorise a railway into Kitimat, the aluminium development area of British Columbia. The line would be built by the Canadian National Railways into Kitimat, where the Aluminum Company is planning to use British Columbia power resources.

White Pass & Yukon Railway

The White Pass & Yukon Corporation Limited, a Canadian company with head offices in Vancouver, acquired from the British-owned White Pass & Yukon Railway Co. Ltd. the four operating companies which make up the system known as the White Pass & Yukon Route. The system, comprising railway, river, highway and con-

struction, and petroleum divisions, is the main transport undertaking in the territory of the Yukon.

The railway, of 3-ft. gauge, runs from Skagway, Alaska, to Whitehorse, the largest town in the Yukon, about 110 miles. The river services carry passengers from Whitehorse down the Yukon River to Dawson City, Alaska, 434 miles, and freight to Coal Creek, 218 miles. There is a bus service from the southern terminus of the Alaska Highway to the Alaska border, a distance of 1,222 miles. Lorry services have become increasingly important in recent years.

The railway was begun in the Spring of 1898 to provide transport to the Klondike. After the gold rush, the traffic fell considerably, and, although the system maintained a small operating profit, the operating companies paid no dividend after 1912. The construction of the Alaska highway during the second world war much improved its situation and it was called on to handle greatly increased traffic. From October, 1942, to April, 1946, it was leased to the United States Government. Since 1945 about \$1,400,000 have been spent on railway, road and other services by the operating companies.

UNITED STATES

"Bargain Fares" Scheme

The Denver & Rio Grande Western Railroad has introduced a "bargain fares" scheme, which reduces travel costs from 20-26 per cent. The lower rates apply to tickets bought for weekend departures and are valid for return any day within a 25-day limit.

Diesels on Rock Island Suburban

On December 17 all workings on the Rock Island suburban service between Chicago, Blue Island and Joliet were taken over by two 1,500-h.p. Fairbanks Morse and 15 Alco-G.E. diesel units.

The rolling stock used on these services includes 20 lightweight streamline coaches with rapid-transit-type doors, and many older lightweight coaches which have been extensively modernised.

ARGENTINA

Cyclone Causes Serious Accident

A violent cyclone on the night of November 21-22 caused widespread damage and the derailment of a train of the General Belgrano Railway bound from Buenos Aires to the Northern Provinces. The train, hauled by two diesel-electric locomotives, consisted of two luggage vans, seven sleeping cars, and eight coaches, conveying some 600 passengers. Shortly after the train left San

Genaro Station the hurricane reached its peak, and struck the train broadside, overturning all but the locomotives and the van immediately behind them. Forty-seven passengers were seriously hurt.

New Rates

It is now possible to send butter and cheese between any two stations at the rate of \$200 per ton (minimum consignment 5 kg. for butter and cream cheese). This rate includes port traction and other dues at interchange stations.

A flat rate has been introduced for cement. Portland cement in complete wagon loads (min. 20 tons) is rated at \$80 per ton. For less than wagon loads the rate is \$95 per ton.

MEXICO

Veracruz Line Improvement

The 150-mile Mexico City-Esperanza section of the line between Mexico City and the port of Veracruz, formerly the Mexican Railway, will be remodelled during the next few months as a stage of the national railway reconstruction programme which is being

financed in part with funds obtained from the Export-Import Bank of Washington.

The plan includes the relaying of most of the line with 112-lb. rail, renovation of cables and accessories for overhead lines on the electric section, reinforcement and levelling of embankments, and improvement and replacement of equipment in yards at Apicaco and Orizaba.

ROUMANIA

"Balt-Orient Express"

A portion of the main "Balt-Orient Express" now runs from Budapest to Sofia, via Oradea, Bucharest, Giurgiu and Ruse, instead of via Subotica and Belgrade, thus enabling the journey between these cities to be undertaken entirely within Iron Curtain countries.

FRANCE

Containers for Algeria Fruit Traffic

An experiment is being carried out in the speedy transport of fruit between Algeria and the Paris markets. By

using containers with a capacity of from 2 to 3 tons, it has been possible for oranges and tomatoes picked in Algeria on Friday evening to be consumed in Paris by the following Tuesday midday.

Every priority is given to the movement of the containers by rail and sea, and it is believed that the speedy transit resulting will lead to a considerable growth in the traffic.

IRELAND

Last Trains to Greenore

The last train from Newry to Greenore left Edward Street Station, Newry, on December 31 at 7.10 p.m., the event marking the closing of the 78 year old Dundalk Newry & Greenore Railway. At 8.5 a.m. from Dundalk the last train on that section of the railway left.

One coach, believed to be the only composite first and second class coach in existence in Ireland, is to be preserved by British Railways. The line, trains, and Carlingford Station were photographed and used in sequences in the film "Saints and Sinners."

G.N.R.(I.) buses and lorries now provide services in the area.

Publications Received

Le 75ème Anniversaire de la Compagnie Internationale des Wagons-Lits et des Grands Express Européens. Published by the International Sleeping Car Company, Paris.—The history of the Wagons-Lits Company, which last month celebrated its 75th anniversary, as mentioned in our issues of December 14 and 28, is outlined in this small pamphlet; some account also is given of the recovery and progress made by the company since the war of 1939-45, which caused severe damage to and loss of its rolling stock. Mention is made of a new type of second class sleeping car containing 20 single-berth compartments, of the company's intention to increase the number of third class sleeping car services, and of its world-wide organisation of travel bureaux, in which it is closely linked with Thos. Cook & Son Ltd.

S.N.C.B. (Belgian National Railways) 1926-1951. Brussels, 1951: published by *Trains*, 96, Rue de la Croix de Fer. 11½ in. x 8½ in. 111 pp. Illustrated. Price fr. 40 (Belgian).—Several chief officers of the Belgian National Railways have contributed to this special number of *Trains* issued to commemorate the 25th anniversary of the formation of the present undertaking. The articles are fully illustrated, and deal both with the technical equipment of the railways and with their organisation, administration, and commercial activities. Three colour plates are included as well as some 130 half-tone illustrations. Electrification is held to be the most far-reaching development on the Belgian National Railways in

their first 25 years both in respect of what it has achieved already and of its potentialities. A two-page map shows all the lines already converted and those still to be dealt with. The whole scheme totals about 940 miles. Many other applications of electricity in railway working are also represented, such as relay interlocking and improved lighting methods at goods yards and stations, and the whole publication gives evidence of the progressive manner in which the administration is meeting the many problems of operating its densely occupied lines. This very adequate review of the Belgian National Railways at an important milestone in their history should promote widespread interest.

Calendars and Diaries, 1952.—We acknowledge receipt of calendars for 1952 from the Department of Railways, New South Wales; Nigerian Railway; Railway Convalescent Homes; British Timken Limited; and the British Vacuum Cleaner & Engineering Co. Ltd.; and a diary from C.A.V. Limited.

London's Underground. A Pictorial Survey. By O. J. Morris. London: Ian Allan, Limited, 282, Vauxhall Bridge Road, S.W.1. 8½ in. x 5½ in. Paper covers. Price 2s. 6d. net.—The growing interest in London Transport and its predecessors has prompted the publication of this attractive album of photographs of motive power, rolling stock and structures ranging from one of the first Beyer, Peacock 4-4-0s of the Metropolitan (1864) to the experimental high-window car introduced on the Bakerloo in 1950. The variety in station architecture from Notting Hill Gate, typical of the original Circle sta-

tions, to Gants Hill or Loughton, and the evolution of tube and surface lines stock through sixty years, are well brought out.

Films for Industry.—Practical guidance on the sponsoring and distribution of industrial films is given in this booklet compiled by the Home Publicity Committee of the Federation of British Industries. The booklet, the third of a series on industrial public relations and published at 1s. 8d., is addressed to firms and trade associations having no first-hand knowledge or experience of film sponsoring or of the channels through which such films are distributed. After outlining the questions a film-sponsor should ask before deciding on the making of a film, the booklet describes the various kinds of film that can be made. Information is given also on the preparation of films and on factors affecting the cost of films and film strips. An appendix prepared by the Board of Trade and Government Overseas Departments gives guidance on the use of films to promote overseas trade.

Timbers of South America.—Since this booklet was first published by the Timber Development Association further information on the properties and uses of South American timbers has been received by the Association and this has now been incorporated in a revised and enlarged edition. The booklet refers to 93 different timbers, provides a general description of these timbers and their seasoning and strength, and includes a full index of common and botanical names and a guide to their uses which should be of great assistance to all handling these woods.

An Analysis of Rail-End Failures

An examination of the causes of fractures from over-stressing at joints with particular reference to the advantages of girder-type fishplates

(By a Correspondent)

RECENT correspondence in the columns of *Railway Engineering & Maintenance* (which was summarised in *The Railway Gazette* of October 12, 1951) has drawn attention to the increasing number of rail-end failures on American railways.

Among the possible causes suggested for these defects were worn fishplates, insufficient packing of the ballast under the joint sleepers, the hardening of rail-ends to reduce batter, and the reversal of stresses. At the same time it is of interest to examine the problem from the point of view of the designer of permanent way.

Rail-end failures, through horizontal cracking under the rail head in the form of separation cracks between the head and web, cracks through the bolt holes, rail-end batter, or reversals of stress, are not due in themselves to impact of live load, faulty or inefficient sleeper packing, or to any other cause of this nature. The problem of rail-end failures is the problem of the frequency with which they occur relatively to failures in mid-rail. Both the rail ends and the mid-rail points are subjected to exactly similar live loads and ballasting conditions. The root cause of rail-end failures is due to the way in which the stresses are transferred from rail-end to fishplate, and back from fishplate to rail-end. In short, it is due to the nature and design of rail-end support.

Loading of Standard Joints

Consider the loading of standard joint components taking a 95-lb. bull-head rail with 9-in. fishplates. Mr. Magee, in *Railway Engineering & Maintenance* of June, 1951, refers to a 20,000-lb. tensioning of the fishing bolts, which may be accepted. The loading per bolt on a fishing table with an inclination of 1:2½ is about 24 tons. This is the magnitude of the separation force between the head and web, already referred to, equal to a web stress of approximately 7 tons per sq. in. To this must be added the loading due to live load to balance the bending moment in the fishplate at the rail joint.

Assuming that the live load (allowing for impact) is equal to a static load of 14 tons per wheel, the bending moment at the joint is found to be approximately 71 in. tons, and -56 in. tons when the joint is directly under and between the wheel loads respectively. When the joint is between the wheel loading points, the fishplates take the whole of the negative bending moment, whereas when the wheel load is immediately over the joint, the rail-ends, acting as cantilevers, relieve the fishplates of a proportion of the loading. The negative bending moment in the fishplates is greater than the positive bending

moment. This is in agreement with fishplate failure, which almost always occurs as a progressive fracture at the centre of the top of the fishplate, and not at the bottom. From the bending moment diagram it might be expected that failure of the fishplate would occur at the bottom instead of at the top, but, of course, this is not the case, either in practice or theory.

Let P denote the resultant pressure on the fishing surfaces due to live load. The point of application of P is taken to be such that, when combined with the static fishbolt loading, the resultant loading at the rail-end is zero, and a maximum at the end of the fishplate on the upper fishing surface, and *vice versa* on the lower fishing surface. From this, P for a bending moment of -56 in. tons is approximately 25 tons, giving an average separation stress of approximately 7.35 tons per sq. in., with a maximum of 14.7 tons per sq. in., which added to the static loading of 7 tons per sq. in. gives a maximum of about 21.7 tons per sq. in.

This stress is based on the assumption that the separation loading is distributed over a length of the web equal to the length of the fishing surface. These heavy stresses and fishing surface loadings may be reduced very materially by the application of the girder fishplated joint (described in *The Railway Gazette* of November 24, 1950) and so eliminate joint failure through the over-stressing of components. The analysis of the stresses in this type of joint will enable the advantages to be clearly defined.

Girder-Type Fishplates

With the girder fishplated joint, there is practically no appreciable negative bending moment in the fishplate, the only bending moment produced being due to the rail loading on that portion of the fishplate which extends beyond the centre line of the chair seating (namely, about 2½ in.) giving a negative bending moment of approximately 8.5 in. tons. It is therefore only necessary to consider the bending moment when the joint is immediately under the wheel load. The tensioning of the fishing bolts does not produce any separation loading between the head and the web.

Treating the fishplate as a freely-supported beam, the bending moment in the fishplate due to the live load (taken as 14 tons) is approximately 21.5 in. tons. This bending moment is induced by the transference of the wheel load through the rail-head to the upper surface of the fishplate, and therefore there is no separation stress between the head and web of the rail. The load on the fishing surface is approximately 8 tons, compared with 49 tons for a standard joint.

Girder-type fishplates have been under test for over six years in standard bull-head track at Cheddington, on the main line of the London Midland Region of British Railways from Euston to the North. They have proved satisfactory, and, compared with standard-type joints, a reduction of about 25 per cent. in rail-head wear has been recorded by a feeler gauge and straight edge placed over the joint. The girder fishplate therefore appears to be the answer to joint failures arising from overstressing, which are nowadays causing increasing concern to American engineers, as the design is applicable to flat-bottom track.

AIRWAYS COSTS INCREASE.—Mr. P. Mansfield, Chief Executive, B.E.A., said recently that the corporation was unlikely to reduce its deficit for the current financial year below that of last year, because costs were going up at a greater rate than revenue. These trends were likely to continue for another two or three months so that inevitably this year they could not now expect to reduce their deficit below that of last year. The deficit for the financial year ended March, 31, 1951, amounted to £979,267.

OCTOBER PEAK IN AIRLINE EARNINGS.—October last year was a record month for the turnover in international air traffic transactions put through the International Air Transport Association clearing house in London. Turnover totalled \$17,445,000, compared with the previous monthly record of \$16,500,000 set up in September, 1950. Total revenue transactions cleared during the first ten months of last year amounted to \$137,877,000 or an increase of almost 15 per cent. over the total of \$120,310,000 in the same period of 1950.

SIMPLIFIED CENSUS OF PRODUCTION.—The Census of Production to be taken in 1953 in respect of 1952 is to be simplified. Forms will contain fewer questions than in any previous census and sampling will be introduced for the first time. These changes, made after consultation with the Census of Production Advisory Committee, will reduce substantially the burden on industry and permit economy at the Board of Trade. The census will cover all producing industries as before and returns will be required from all firms over a certain size in each trade. A sample will be taken of smaller firms so that the majority will not be required to make a return. Information obtained from the sample will permit early estimates to be made of aggregates, such as total sales and materials used, stocks, and capital expenditure for each trade. The introduction of sampling is facilitated by the fact that details of output and materials were obtained in the census for 1951 and can accordingly be dispensed with for 1952. Any firm requiring further particulars should write to the Census of Production Office, Neville House, Page Street, London, S.W.1.

Rolling Stock for the Toronto Underground

An order for 104 British-built coaches of all-steel construction and integral design

THE Toronto Transportation Commission has placed a contract for 104 cars for the 4 ft. 10 $\frac{1}{2}$ in. gauge Yonge Street Subway with the Gloucester Railway Carriage & Wagon Co. Ltd. The construction of the subway, which was referred to in our April 7, 1950, issue, is now in progress, and it is understood that the present order involves an expenditure of approximately \$7,800,000. This new rolling stock is programmed for completion during 1953.

The cars will be approximately 57 ft. long and 10 ft. wide, seating 62 passengers, and arranged with three sliding doors on each side. The cars' motor equipment will be manufactured by

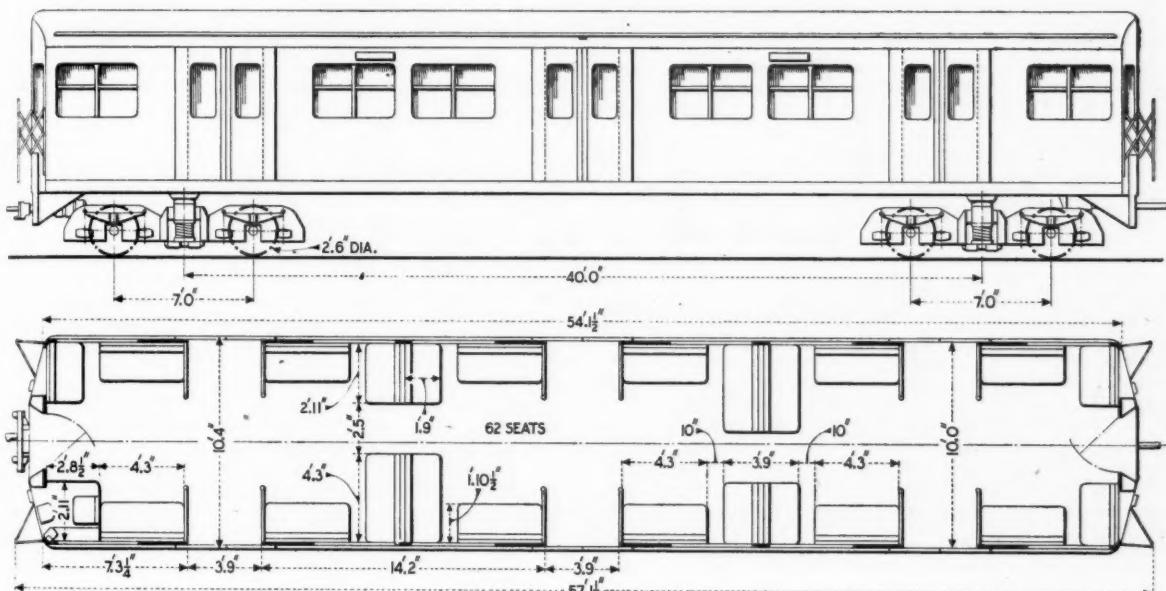
Operation of eight-car trains will carry some 40,000 passengers an hour in each direction.

Body Design

The cars will be of all-steel integral design in accordance with modern practice. The floor will be of rubber, laid on a cork foundation attached to a dovetailed steel sub-floor. In addition, special sound deadening material will be applied to the inner side of the exterior body panels. The seats, consisting of a combination of longitudinal and cross types, have been arranged to permit rapid passenger movement at stations. The seat frames will form part of the car structure and will be of steel and

way Carriage & Wagon Co. Ltd. and arranged to mount two propeller shaft driving motors on each bogie with hypoid gear axle units, manufactured by David Brown & Sons (Huddersfield) Ltd. The motors will be frame mounted and are therefore spring-borne and not axle-hung.

Roller bearings and solid steel wheels will be used. The suspension system will be by laminated springs and triple coil helical springs with spring-loaded friction pads to provide suitable damping. Each bogie will have a third rail shoe on each side for current collection from the top surface of the third rail. There will also be pneumatic trip-cock devices to effect auto-



Principal dimensions and seating arrangement of rolling stock for the new Toronto Subway

Crompton Parkinson Limited and control equipment by the British Thomson-Houston Co. Ltd. The general data and dimensions of the new coaches are as follow:—

Length overall	...	...	57 ft. 1 <i>1</i> / ₂ in.
Length over body	...	...	54 ft. 1 <i>1</i> / ₂ in.
Width over doors	...	...	10 ft. 4 in.
Height	...	...	12 ft.
Bogie centres	...	...	40 ft.
Bogie wheelbase	...	...	7 ft.
Wheel dia.	...	...	2 ft. 6 in.
Door opening width	...	...	3 ft. 9 in.
Door height	...	...	6 ft. 6 in.
Seating capacity	...	...	62
Weight, empty	...	...	60,900 lb.

Two cars will be semi-permanently attached to form a two-car unit which will be operated in off-peak hours. As traffic increases, additional two-car units will be added. A maximum train of eight cars (four two-car units) can be accommodated at the 500 ft. platforms which will be built at all stations.

aluminium. Rubber latex cushions will be used with rubberised hair seat-backs. Ample precautions will be taken against fire risk.

The sliding doors, of aluminium alloy, will be operated pneumatically; windows will be arranged with the bottom half fixed and the top half movable. There will be one driver's cab in each car at the coupling end of a two-car unit. In effect, this provides a two-car unit approximately 114 ft. long with a cab at each end. Turning facilities are therefore not required. The operator can control a train of from two-car to eight-car sets from the driving cab and the doors can be controlled from any cab not used for operating the train.

The bogies will be designed and manufactured by the Gloucester Rail-

matic emergency stops, should the train be operated beyond the red signal light.

The two cars of a unit will be held together by a bar coupling, mounting suitable draft-gear with electrical connections made by multi-conductor cables. The halves of a two-car unit will not be uncoupled except in emergency and for shop repairs. Coupling for multiple-unit working will be by fully automatic electro-pneumatic couplers, manufactured by G. D. Peters & Co. Ltd. and fitted at the leading end of each car, with switch control from within the cab giving coupler lock and changeover of electrical and air controls for through working.

The traction motors, to be supplied by Crompton Parkinson Limited, are of the usual series-wound type, operating with pairs permanently in series across

the 600 V. supply. Each of the 104 single cars will have four 68-h.p. motors which are designed to have their fields diverted for fast running. The motors are capable of accelerating a fully loaded car at the high rate of 2.3 m.p.h. per sec. and will give a top speed of 55 m.p.h. approximately.

The erection of the equipment and the wiring of traction and auxiliary circuits will be carried out by the British Thomson-Houston Co. Ltd. The control will be of the P.C.M. electro-pneumatic camshaft type, generally similar to the large number of equipments already in use on the London Transport system. All traction control equipment will be assembled in a single unit arranged for mounting under the car.

The resistors will be of the lightweight R.P. type, using edgewise wound aluminum chromium steel alloy strip, mounted on ceramic insulators. The resistors will be mounted in a separate frame arranged for under-car mounting. The chief characteristics of the P.C.M. equipment are compactness, simplicity, and reliability.

The braking system will be of the electro-pneumatic type manufactured by the Westinghouse Brake & Signal Co.

Ltd. Thus all brakes on a train operate simultaneously and those on a long train as quickly as on a short one. The application and release of air to the brakes of each car is controlled from the operator's position by electrical connections. In the unlikely event of a failure of the electrical system, the same functions can be performed—but not quite so rapidly—by normal automatic pneumatic means.

An interesting feature will be a retardation controller consisting of a mercury U-tube having electrical contacts which are made or broken by the surge of the mercury. The purpose of this device is to bring the train to rest as smoothly and as rapidly as possible. The braking mechanism will consist of independent brake cylinders each with automatic slack adjusters, operating on eight shoes on each bogie. This arrangement, similar to that used on the London underground stock, reduces noise, eliminates the use of brake rigging, and ensures uniformity of braking. The lighting and heating systems will be provided by J. Stone & Co. (Deptford) Ltd.

The electric light fittings will be of the incandescent type, one fixture over

every seat, giving an illumination of 25 ft. candles on the reading plane. In a power failure, battery-operated emergency lights will function automatically. Heating and ventilating will be provided from under-floor resistors of 30 kW. capacity over which air will be circulated to the car through seat pedestal louvres; thermostatic control will provide a temperature of 62° to 65° and a combination of fresh and recirculated air will be made available.

Auxiliary Equipment

The batteries and motor generator sets operating a nominal voltage of 50 V. for the auxiliary supply will be supplied by Crompton Parkinson Limited. The generator will be capable of a continuous output of 4 kW., the motor being supplied from the track current at a nominal 600 V. The low voltage system is provided to operate the various components controlling the traction motors, pneumatic doors, brakes, heating, ventilating, and other features. The M.G. set will consist of two similar armatures on a common shaft surrounded by a common frame, containing two independent field systems.

Locking Mechanism for Rolling Stock Windows

Giving instantaneous release in any position by the application of slight pressure

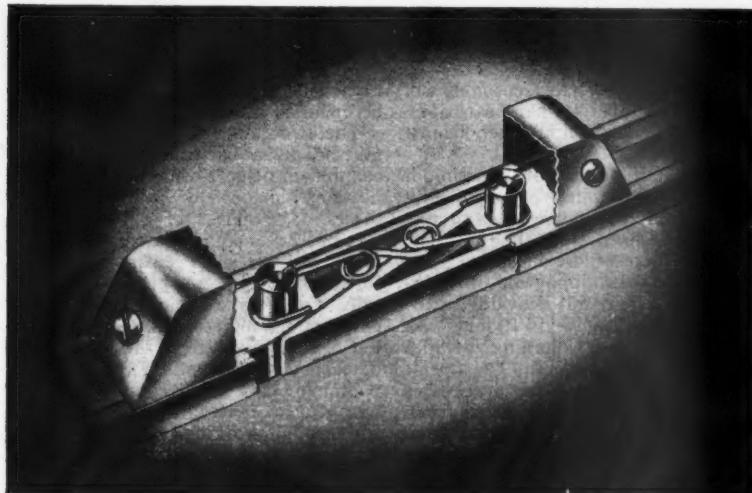
A LOCKING mechanism which provides instantaneous adjustment with immediate automatic locking at any point of travel has been patented by Deal Slide-Lock Devices Inc. of New York. Known as the Slide-Lock unit the mechanism is suitable for use on railway rolling stock windows and road transport vehicles. Sole manufacturing rights in this country have been granted to Slide-Lock Limited, of 177, Kirkstall Road, Leeds, 4. The basic design

consists of two wedges fastened together by a spring operating in a channel of any given length. Attached to each end of the channel is a thin flexible metal ribbon running diagonally across it and between the wedges.

Locking occurs when pressure is exerted on either wedge towards the separating ribbon. This pressure tends to increase the overall width of the wedges by pushing them closer together, and, as the width of the channel

is constant, instantaneous locking action results. When pressure is applied on either of the wedges, away from the separating ribbon, the locking action is broken, thus permitting the assembly to slide freely to a new position in the channel; for example, if the adjustable section of a "half-drop" window is supported by the upper wedge, the assembly will lock itself against downward motion, and can only be lowered when downward pressure is applied to the lower wedge.

Two types of unit have been developed to suit varying conditions, and are referred to as the Positive Lock and the Pressure Lock. Both devices can be used either vertically or horizontally, the only difference being that the former incorporates triggers and buttons to produce the necessary action on the wedges, whereas the latter requires no releases, adjustment being carried out by exerting slight pressure on the assembly.



Locking mechanism, showing assembly of spring-loaded wedges

INSTITUTE OF TRANSPORT.—The Council of the Institute of Transport invites applications for the award in respect of the year 1952-53 of up to four Henry Spurrier Memorial Scholarships of an aggregate value not exceeding £1,000 and at least five Henry Spurrier Memorial Grants not exceeding £20 each. Applications must be made on a form to be obtained from the Secretary, Institute of Transport, 80, Portland Place, London, W.1, with whom the completed form must be deposited not later than May 31, 1952.

Mixed-Traffic Locomotives for Ceylon

Built for service on the Batticaloa-Trincomalee section of the line

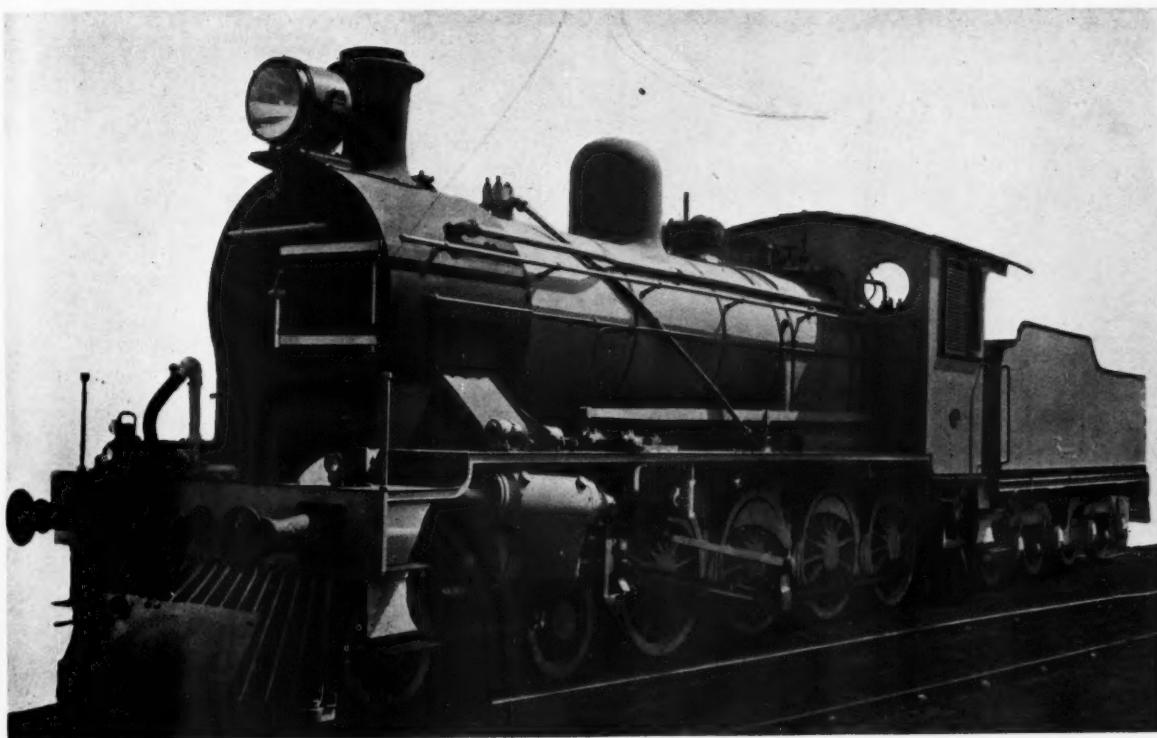
AMONG the orders recently completed by W. G. Bagnall Limited are six locomotives for the 5 ft. 6 in. gauge line of the Ceylon Government Railway. The engines are to the design of Mr. B. D. Rampala, Chief Mechanical Engineer, and were built under the supervision, and to the inspection of, the Crown Agents for the Colonies.

The locomotives, known as the A3D

type, are somewhat similar to those supplied by the firm in 1939, except that the cab and tender have been redesigned, a feature which improves the general appearance of the locomotive. They have a maximum permissible axleload of 9 tons, as they are for operation on the Batticaloa-Trincomalee section of the line, and are particularly required to meet the heavy demands

occasioned by the Gal-Oya irrigation scheme.

The boiler has a firebox of the round top type, the barrel is made up in two rings, the smaller one being 4 ft. $3\frac{1}{2}$ in. inside dia. with plates $\frac{1}{8}$ in. thick. The internal firebox is made from steel plates, and is of welded construction; the door plate and wrapper was $\frac{3}{8}$ in. thick, and the tube plate $\frac{1}{16}$ in. thick.



Mixed-traffic locomotive for the Ceylon Government Railway

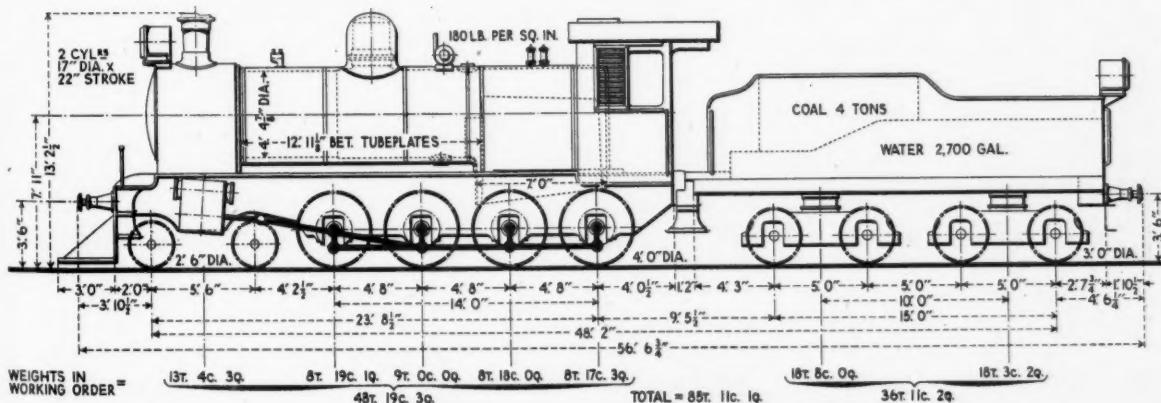


Diagram of principal weights and dimensions of locomotive

All joints are butt welded, including the firehole, which is welded to the boiler backplate when the firebox is inserted into the boiler. Two arch tubes are provided, of 3 in. outside dia. 7 s.w.g. thick, and are arranged to carry the firebrick arch.

The roof of the inside firebox is inclined, and is stayed by steel roof stays of 1 in. dia., the first two rows at the tubeplate end being flexible. The water space stays are of steel, and flexible stays are fitted in the breaking zones. Boiler feed is by two Davies & Metcalfe No. 8 monitor injectors. An I.C.I. Alfloc automatic blow-down valve is provided. The steam supply for the operation of the piston is taken from the steam pipe on the cylinders.

There are 80 small tubes 2 in. outside dia. and 18 superheater flue tubes $5\frac{1}{2}$ in. outside dia. The superheater, supplied by the Superheater Co. Ltd., is fitted with 18 5P4 type elements; a Joco regulator is fitted in the dome.

Frame Details

The main frames are of steel plate $\frac{7}{8}$ in. thick, braced together by plate cross-stays; the axlebox guides, which are of cast steel, are fitted with renewable steel liners. Cast-steel axleboxes fitted with gunmetal wheel hub liners

and side liners are fitted with Ajax axlebox lubricators supplied by Whitelegg & Rogers Limited. These are designed to take cakes of hard grease and hold them in contact with the underside of the axle journal.

The coupled wheel hubs are fitted with cast-iron liners, and hard grease lubrication is provided through grease nipples arranged between the spokes on the outside of the wheels. The bearing springs are of the laminated type, underslung and not compensated. The locomotives are fitted with outside cylinders 17 in. dia. \times 22 in. stroke. Steam distribution is effected by 8 in. dia. piston valves actuated by Walshaerts valve gear.

A Wakefield A.C. type sight-feed lubricator with separate condenser is fitted with feeds to the steam pipe and also to the cylinder barrels. The engine bogie is of conventional design and is of plate-frame construction with cast-steel cross-member. Bogie side play is controlled by Spencer Moulton rubber check springs, and movement is limited to $2\frac{1}{2}$ in. on each side, a total side travel of 5 in. The brake gear is compensated throughout and is operated by two 21-in. dia. F type vacuum cylinders arranged between the frames.

The tender is of the double-bogie

four-wheel type, and the bogie frames are of plate construction. The bunker is self-trimming and both the tank and bunker are of riveted construction. The brakes, with blocks on all wheels, are operated by one 21-in. F class vacuum cylinder. A hand brake is also provided. The Sunbeam turbo-generator and headlights were obtained from America; other electrical equipment has been supplied by J. Stone & Co. (Deptford) Ltd. The generator output is 500 W. at 32 V.

Principal Dimensions

The principal dimensions of the locomotives are as follow:—

Cylinders, dia. and stroke	...	17 in. \times 22 in.
Wheels, coupled, dia.	...	4 ft.
bogie, dia.	...	2 ft. 6 in.
Heating surfaces :		
Small tubes	...	541 sq. ft.
Large tubes	...	313 "
Arch tubes	...	10.5 "
Firebox	...	114.5 "
Total evaporative	...	979 "
Superheater	...	252 "
Total	...	1,231 "
Grate area	...	23.2 "
Working pressure	...	180 lb. per sq. in.
Tank capacity	...	2,700 gal.
Bunker capacity	...	4 tons
Rigid wheelbase	...	14 ft.
Total engine and tender wheelbase	...	48 ft. 2 in.
Length over buffers	...	53 ft. 11 in.
Weight in working order, engine	tender	48-98 tons
Total weight, engine and tender	...	36.57 "
Traction effort at 85 per cent. b.p.	...	85.55 "
		20,266 lb.

Air-Conditioned Travel in Australia



An eight-coach air-conditioned express of the New South Wales Government Railways, hauled by Class "C.38" streamline Pacific locomotive

Rolling Stock for East Africa

Second class coaches and bogie parcels vans of all-steel construction with riveted and welded underframes



Parcels and brake van, showing one of the luggage compartments

TO meet increasing traffic demands on the East African Railways the Crown Agents for the Colonies placed orders with the Metropolitan-Cammell Carriage & Wagon Co. Ltd. for 13 second class carriages and five bogie parcels and brake vans. The second class carriages will be used on the Kenya-Uganda Section, and the bogie parcels vans, although built for the Kenya-Uganda Section, will be used on

passenger trains on the Tanganyika Section. The second class rolling stock is at present under construction and the parcels vans have already been despatched to East Africa.

The principal dimensions of the second class carriages are as follow:—

Gauge	Metre
Length over end panels	58 ft.
Width over bodyside	9 ft. 2 in.
Centres of bogies	41 ft.
Height rail to roof	12 ft. 3 in.
Tare weight	28 tons 10 cwt.

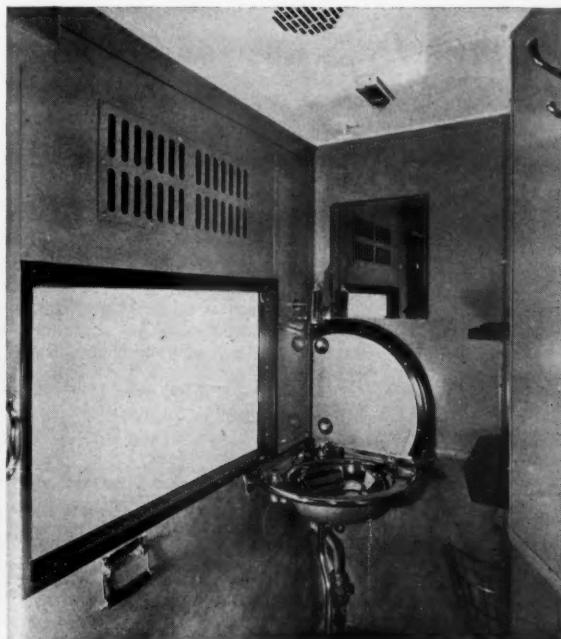
The principal dimensions of the parcels vans differ only in the width over side panels and tare weight: these dimensions are 8 ft. 11½ in. and 24 tons 5 cwt. respectively. The vans are designed to carry 10 tons.

Design Features

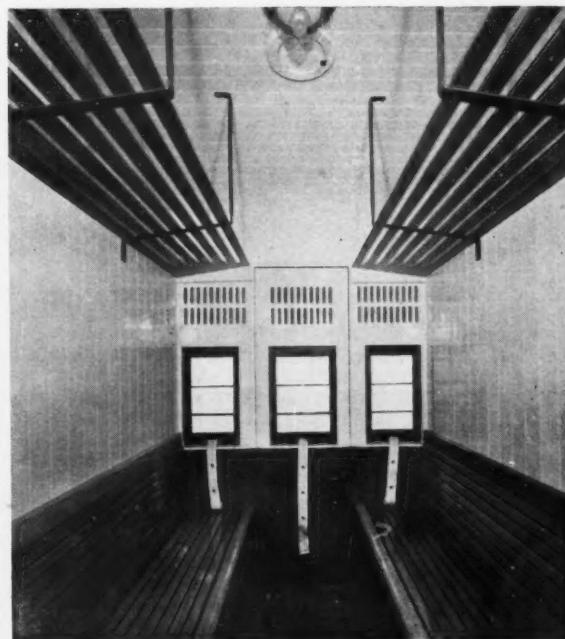
The bogies are similar for both types of stock and are of the Timmis type. A feature of the design is that the bogies, built to metre gauge, are so designed that they can be converted to 3 ft. 6 in. gauge. Built of plates, angles, and pressings, the bogies have a wheelbase of 6 ft. 6 in. and are 11 ft. over headstocks. Laminated bearing springs are fitted, and the bogie bolster springs are of the helical type, fitted two on each side of the bogie.

Top and bottom spring locating brackets are provided and the inner faces are lined with felt washers ½ in. thick. Hardened-steel bushes are fitted to the suspension links and top spring locating brackets, and lubrication is by means of Ajax soft grease nipples. The bogies are 4 ft. 7½ in. over soleplates. The underframes of each type of rolling stock are basically similar in dimensions and design.

Each are of cantilever construction and are riveted and welded. Westinghouse brakes are fitted on the passenger stock and arrangements have been made also for fitting vacuum brakes. M.C.A. couplers are fitted and provision has been made for M.C.B.



Second class lavatory



Staff compartment of parcels van

couplers. Midland type vestibules are fitted on the second class carriages only, together with lower platform headstocks. The underframe solebars are of 6 in. x 3 in. x 12.41 lb. channels, while the longitudinals are of tee section 5 in. x 4 in. x $\frac{1}{8}$ in. braced with $\frac{1}{2}$ -in. thick plates. The depth from the top face of the solebar to the underside of the longitudinals is 1 ft. 6 in. at the centre of the underframe.

The underframes are suitably strengthened by cross-members and are reinforced at the centres of bogies by top and bottom gusset-plates; the cantilevers are tied to the lower longitudinals

each side of the carriage above the window lights, and insulation is by sprayed asbestos on the inside of the body panels and the roof. Enclosed vestibules, with telescopic gangways, allow passage to all coaches when coupled together, and a straight through corridor of ample width connects the vestibules. Access is by fixed steps at each end of the carriage.

Passenger accommodation is provided for seating and sleeping 24 persons, arranged in six four-berth compartments, the seatbacks forming the upper berths to which access ladders are provided. The seats are uphol-



Second class carriage with berth in day position

by web-plates $\frac{1}{8}$ in. thick welded to each at various intervals longitudinally. Dabeg slack adjusters are included. A hand-brake is provided in the guard's compartment in the bogie passenger brake vans.

Body Construction and Design

The second class carriages are of all-steel construction and integral design consisting of angles and pressings riveted together. The body panels are of 12 b.g. copper-bearing mild steel, and due to the absence of mouldings and visible panel joints, the exterior presents clean and unbroken lines. Fixed ventilators are provided on

stered in green whipcord. Armrests are also fitted, and washhand basins are provided in each compartment, the water supply for compartments and lavatories being from roof tanks. Access to the roof is provided by access ladders secured to the end of the carriage. The interior partitions are constructed principally of blockboard, and a steel transverse partition is fitted in the centre of the carriage, the surfaces being covered in blockboard. The interior is finished in brown oak and polished teak.

The fittings include coat-hooks and ashtrays, and a filtered water container is provided at the corridor entrance.

All fittings are chromium plated. Beclawat drop-lights are provided, together with mosquito-proof louvres and spring blinds. The floor is of Decolite composition laid on 16 s.w.g. galvanised plate, and coved at the sides to a depth of 2 $\frac{1}{2}$ in. to facilitate cleaning, with the exception of the lavatories, where it is carried up to the waist rail.

The roof is elliptic and of riveted construction, and is insulated with 1 in. thick sprayed asbestos, the roof sheets being 16 s.w.g. thick. An inner lining of Insulwood is provided and the ceiling is of Sundeala $\frac{1}{8}$ in. thick finished in white enamel. Monarch ventilators are installed. Lavatory accommodation is provided, two lavatories at each end. Louvres have been fitted on the corridor side.

Vitreous enamel panels are fitted in the interior above the waist rail, and the fittings include a towel rack, mirror, and washhand basin. Electric lighting equipment is by J. Stone & Co. (Deptford) Ltd. Embarkation lights are provided in addition to the compartment and corridor lighting.

Bogie Luggage and Brake Vans

The bogies of the bogie brake vans are basically similar in construction to the passenger stock. Fixed louvres are provided in the body panels, and drop-lights in the centrally situated guard's compartment and in the staff compartment at the end of the van. Windows are provided on both sides of the body immediately below the cantrails, and exterior electric lighting is arranged adjacent to the luggage compartment doors. There is a lavatory near the guard's compartment, fittings including a commode, washbasin, and so on. Panels are of Sundeala above the waistrail, and the sides below the waistrail are of Decolite.

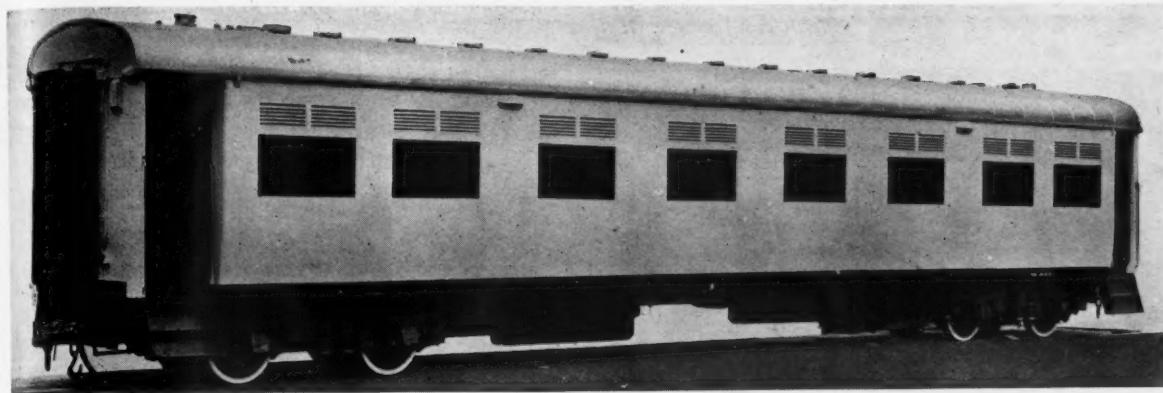
Two luggage compartments are provided, and there are arrangements for carrying fish, galvanised trays being recessed in the van floor. Two dog compartments are also provided. The interior of the van is lined with tongued and grooved boards, painted a dark oak up to the waistrail, and white enamel from the waistrail, including the roof.

The floor is of Decolite and chequered plate is laid at the luggage compartment entrances; the luggage compartment doors are of steel panels riveted to "Z" pressings and of light construction. Monarch ventilators are fitted in the roof. Imperiston 16-in. fans are arranged in the roof as well as Duriston two-light fittings.

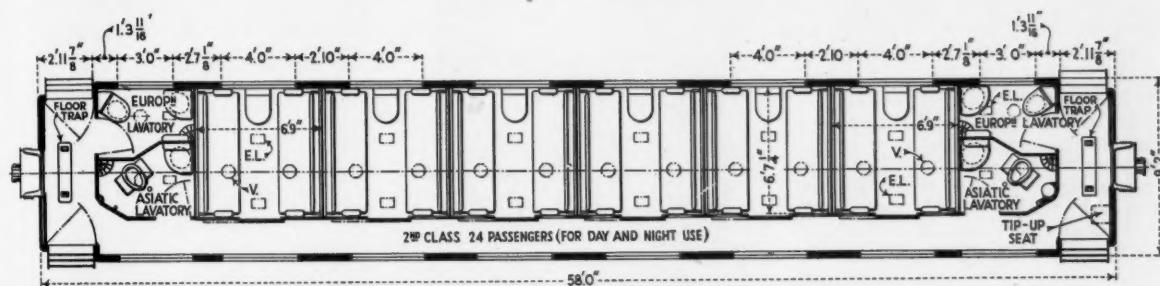
The principal contractors for the new rolling stock are as follow:

Wheels and axles	...	Taylor Bros. & Co. Ltd.
Axleboxes	...	Robert Hyde & Son Ltd.
Springs	...	Turton Bros. & Matthews Ltd. and English Steel Corporation Limited
J.R. springs	...	Geo. Spencer, Moulton & Co. Ltd.
Brake equipment	...	Westinghouse Brake & Signal Co. Ltd.
Castings	...	Robert Hyde & Son Ltd. and Gloucester Foundry Limited
Lighting	...	J. Stone & Co. (Deptford) Ltd.
Glass	...	Pilkington Bros. Ltd.
Dabeg slack adjusters	...	Gresham & Craven Limited
Millboard and Sundeala	...	G. D. Peters & Co. Ltd.
Paint	...	Imperial Chemical Industries Limited

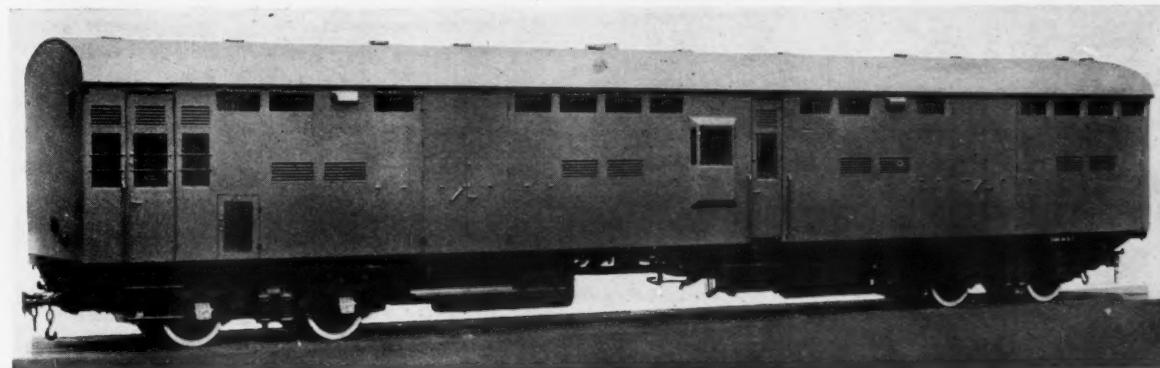
Rolling Stock for East Africa



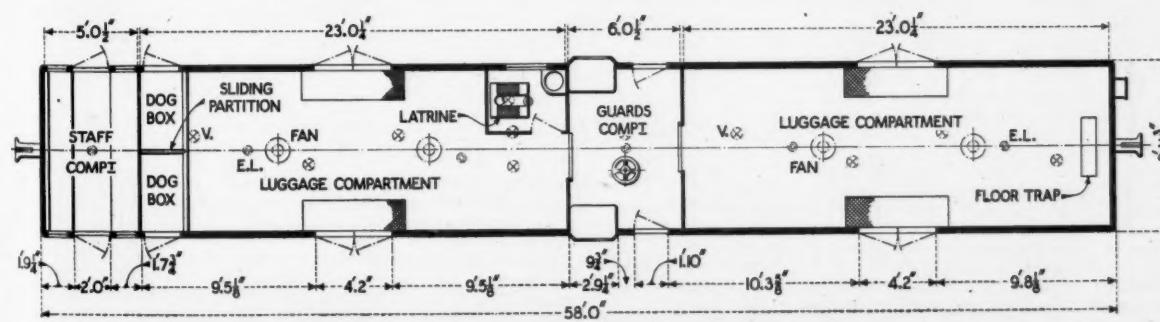
Second class coach built for the East African Railways & Harbours



General arrangement and principal dimensions of second class stock



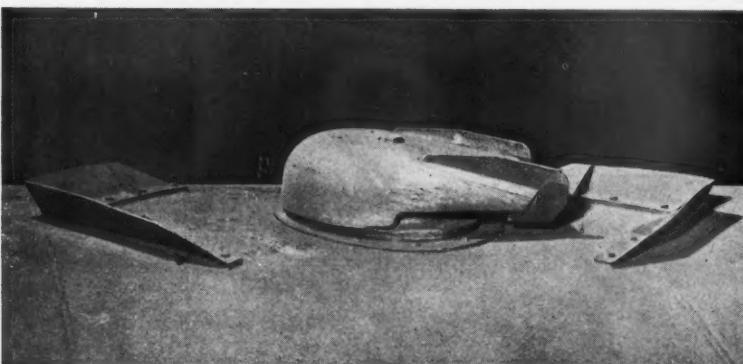
Parcels and brake van for the East African Railways & Harbours



General arrangement and principal dimensions of bogie parcels and brake van

Air Extractor for Railway Rolling Stock

An adaptation of the Vent-Axia cabin ventilator for use in dining cars and coaches



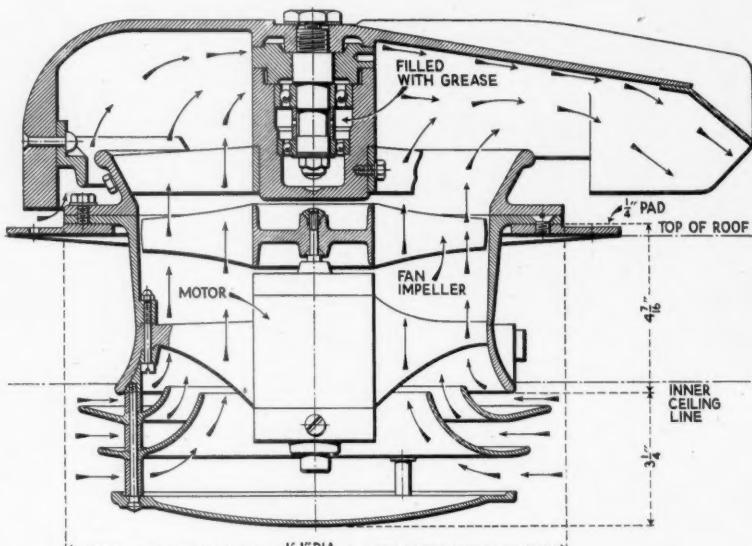
Air extractor fitted to the roof of a coach, showing the position of the fore and aft wind baffles

A revolving cowl ventilator for fitting to the roofs of rolling stock for the ventilation of dining cars, buffets, and kitchens has recently been developed and produced by Vent-Axia Limited. A number of these ventilators has been installed by the Pullman Car Co. Ltd. in the "Golden Arrow" described and illustrated in our June 8, 1951, issue. The ventilator is an adaptation of the well-known Vent-Axia unit and consists of three main sections, namely, the fan and motor, a rotating cowl and support ring, and the louvred intake assembly.

Method of Working

The plastic axial-flow fan impeller is 9 in. dia., has aerofoil section blades, and is directly-driven by a totally enclosed, continuously rated series-wound d.c. motor. The motor bearings are of the self-aligning sintered bronze oil-impregnated type, each bearing assembly containing a large felt pad, holding sufficient oil for about six months of normal running. The motor body, support arms, and flared inlet ring is a one-piece aluminium-alloy die-casting, bolted to the flanged fan casing. The motor runs at 1,250 r.p.m. and at this fan speed requires an input of 30 watts.

The cowl, designed to assist in the extraction of air from the coach, has two tail fins for stability and front internal cinder guard. The short steel shaft to which the cowl is screwed and



Section of the Vent-Axia air extractor showing the method of construction and direction of air-flow

locked can rotate in two ball-races, which are carried in a grease-packed cast-aluminium housing, this housing being supported by a three-arm spider from the flanged support ring, which in turn is screwed to the flange of the fan casing.

This ventilator will extract approximately 260 cu. ft. of air a minute with train speeds up to 60 m.p.h. With the fan switched off, thus using only the cowl as an extractor, the extraction rate will be about 150 cu. ft. at 45 m.p.h. train speed.

CLYDE COAST STEAMER SERVICES.—The modified Clyde steamer services due to come into operation on January 7, and referred to in our issue of November 30, have been the subject of representations by Members of Parliament, civic and other bodies on behalf of the travelling public, who opposed withdrawal of the service from certain piers. Mr. J. S. MacLay, Minister of Transport, was asked in

December to intervene, but pointed out that unless there was disagreement between the Central Transport Consultative Committee and the British Transport Commission he had no power to direct except to give a general direction on matters "in the national interest." He promised early consultation. The British Transport Commission on January 1 stated that new consultations on the revised services would be ar-

ranged immediately. Meetings will be convened by the Chief Regional Officer, Scottish Region, at which the local authorities and other bodies interested will be asked to attend. It is also stated that at the invitation of the B.T.C. and with a view to securing the maximum possible agreement, the Rt. Hon. Thomas Johnston, a former Secretary of State and Chairman of the Scottish Tourist Board, will preside.

RAILWAY NEWS SECTION

PERSONAL

Mr. H. T. Booker, who had been deputising as General Manager of the Central Railway of Peru, Peruvian Corporation Limited, has now been confirmed in that post.

Mr. Edgar Claxton, B.Sc. (Eng.), Assoc.M.I.C.E., A.I.Mech.E., A.M.I.E.E., Assistant Electrification Engineer, Electrical Engineering New Works & Development Section, Railway Executive, who, as recorded in our December 14 issue, has been appointed Electrification Engineer, Electrical Engineering New Works & Development Organisation, Railway Executive headquarters, London, was educated

Dr. H. I. Andrews, M.Sc., M.I.Mech.E., A.M.I.E.E., Senior Assistant (Engineering), Railway Executive Research Department, Derby, who, as recorded in our December 14 issue, has been appointed General Assistant, Electrical Engineering New Works & Development Organisation, Railway Executive headquarters, London, received his engineering training at the City & Guilds College, and after graduation studied steam locomotive design and electric traction under Professor Dalby. In 1928 he obtained a travelling fellowship for research, on the Illinois University locomotive testing plant. After gaining American railway experience he worked on electric traction for the English Electric Co. Ltd. and later on diesel-electric locomotives for

Mr. Jakob Bertschmann has retired as Superintendent of the Traction & Mechanical Workshop Department of the Rhaetian Railway, Switzerland, and has been succeeded by Mr. Alfred Bachtiger, formerly Superintendent of the Central Workshops & Traction Department, City of Zurich Electric Tramways.

Mr. W. J. Webb, B.Sc.(Eng.), A.M.I.E.E., Senior Technical Assistant (Power Supply), Southern Region, London Bridge, who, as recorded in our December 14 issue, has been appointed Assistant for Sub-stations in the Electrical Engineering New Works & Development Organisation, Railway Executive headquarters, London completed his education at University College, Lon-



Mr. Edgar Claxton

Appointed Electrification Engineer, Electrical Engineering New Works & Development Organisation, Railway Executive



Dr. H. I. Andrews

Appointed General Assistant, Electrical Engineering New Works & Development Organisation, Railway Executive



Mr. W. J. Webb

Appointed Assistant for Sub-stations, Electrical Engineering New Works & Development Organisation, Railway Executive

at Merchant Taylors and University College, London, where he obtained his B.Sc.(Eng.) degree with First Class Honours. Between 1931-37 he was employed on construction of the National Grid in Scotland and on works for electricity undertakings in Scotland and Northern Ireland. He joined the L.N.E.R. in 1937 as a Technical Assistant and was engaged primarily on sub-stations and cable work. From 1942-46 Mr. Claxton was loaned to the Admiralty. After returning to the Chief Electrical Engineer's Department, L.N.E.R., in 1946 as Senior Technical Assistant, he was associated with design and production of electric locomotives and multiple-unit stock for the Manchester-Sheffield electrification. In January, 1951, he took over the co-ordination of electrical work for the Manchester-Sheffield electrification and was appointed Assistant Electrification Engineer (L.M. and Sc. Regions) in August, 1951.

Mr. H. O. Smith has resigned from the board of Imperial Chemical Industries Limited.

Mr. W. S. M. Stapleton, Registrar, London Bridge, Southern Region, has been appointed Treasurer, Deepdene House, Dorking, in succession to Mr. A. D. Cook.

Sir W. G. Armstrong Whitworth & Co. Ltd. In 1934 he joined the engineering section of the L.M.S.R. Research Department, where he developed and published papers on a steam-operated refrigerator van, a flexible axle drive, an electrical weighing system, and an air-conditioning system for coaches. Dr. Andrews' major work has been the study of locomotive performance, for which he developed the mobile testing plant and in 1948 he was awarded the Stephenson Prize of the Institution of Mechanical Engineers for a paper on this subject.

TRANSPORTATION CLUB

The monthly dinner of the Transportation Club was held at 44, Wilton Crescent, S.W.1, on December 20. Mr. G. S. Szlumper, Chairman, presided. The principal guest was Mr. A. J. F. Bunning, Adviser on Inland Transport to the Secretary of State for the Colonies. Among members and guests who attended the dinner were:—

Messrs. J. Clubley Armstrong, M. F. Barnard, Colonel P. M. Brooke-Hitching, Mr. Stewart Brown, Lt.-Colonel E. Bustard, Colonel H. E. Clark, Messrs. R. N. Cloke, B. W. C. Cooke, E. W. Crews, S. G. Hearn, R. C. Hider, R. J. Morgan, E. J. Morris, S. Newman, R. A. Powell, Alex. J. Webb.

don University. In 1923 he entered the service of the Southern Railway in the Department of the Electrical Engineer for New Works, which was concerned with railway electrification. After gaining experience in the various sections of the department he was placed in charge of the Drawing Office in 1930. He assisted the Electrical Engineer with the formulation of reports and estimates for all electrification schemes. In 1947 Mr. Webb was appointed Assistant for Power Supply (New Works) in the Chief Electrical Engineer's Department and in 1950 Senior Technical Assistant in the Electric Traction Section of the Mechanical & Electrical Engineer's Department, Southern Region.

LONDON MIDLAND REGION APPOINTMENTS

The London Midland Region has announced the following appointments:—

Mr. John E. Rigby, District Goods Superintendent, Bolton, as District Goods Superintendent, Manchester.

Mr. N. S. Robinson, Assistant to Civil Engineer (Maintenance), North Eastern Region as District Engineer, Barrow, London Midland Region.

Mr. J. H. M. True, Traffic Costing Officer, Railway Executive, as Assistant to Commercial Superintendent (Coal), London Midland Region.



Mr. F. G. Humphrey
Director of Information, Ministry of Transport,
1947-51

Mr. F. G. Humphrey, O.B.E., who, as recorded in our December 7 issue, has retired as Director of Information, Ministry of Transport, is well known among journalists in this country and in many other parts of the world. During his career he has filled almost every post in newspaper work, including those of Editor and Editor-Manager, and has worked in Scotland, Yorkshire, Liverpool, Birmingham, Manchester and London, covering assignments in all parts of Great Britain and many places abroad. He was President of the National Union of Journalists in 1936-37, Honorary Editor of its official journal, *The Journalist*, from 1937-40, and a member of its national executive committee from 1931-41. He joined the Ministry of Information in February, 1940, and in November, 1941, succeeded Brigadier-General Sir Wyndham Deedes as regional chief in London. Later the South Eastern



Mr. C. A. Gammon
Appointed Assistant (Wagon Design), Carriage & Wagon Engineering Department,
Railway Executive

Region was added to his jurisdiction; and for work in charge of the unified area, most of it connected with the state of emergency in that vulnerable and fiercely-attacked part, Mr. Humphrey was made an O.B.E. He also had much to do with establishing good relations between the U.S. Forces and the civil population in London and the south east. After the war, and just before the Ministry of Information became the Central Office of Information, he was transferred to headquarters as Director of the Campaigns & Lectures Division. He was largely concerned with the re-organisation of the department in its new guise before going to the Ministry of Transport as Director of Information in 1947. On his retirement from the Civil Service, Mr. Humphrey has founded Press & Public Relations Services, a consultancy and agency with offices in London and Birmingham.



Mr. L. C. Barron
Appointed Staff Assistant to Motive Power
Superintendent, Eastern Region

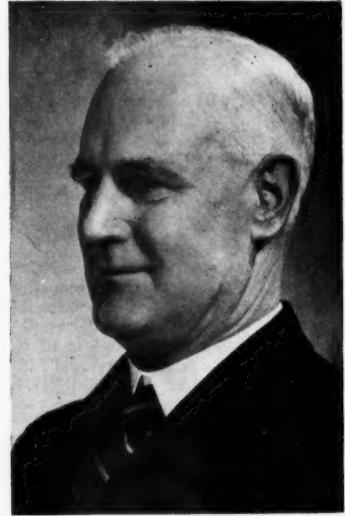
Mr. C. A. Gammon, M.I.Loco.E., Technical Assistant, Carriage & Wagon Engineering Department, London Midland Region, Derby, who, as recorded in our December 14 issue, has been appointed Assistant (Wagon Design), Carriage & Wagon Engineering Department, Railway Executive headquarters, London, received his training on the L.N.W.R. at Wolverton Works and Technical College, afterwards entering the drawing office. On the inception of the L.M.S.R. he moved to Derby, and later to Euston headquarters, returning to Derby in 1939 as Technical Assistant (Carriages & Wagons). From 1934 to 1947 he was draughtsman to the Chief Mechanical Engineers' Committee. He is a member of several Railway Executive Committees, being Chairman of the Wagon Standards, Wagon Handling Appliances and Joint Technical Committees. Mr. Gammon is also the technical delegate of



Mr. S. E. Newman
Appointed Assistant (Train Planning), Operating
Department, Railway Executive.



Mr. W. J. Garrod
Appointed Assistant to Executive Officer (Minera
Traffic), Commercial Department,
Railway Executive



The late Mr. W. A. J. Clark
Parliamentary Assistant Solicitor to the British
Transport Commission, 1947-51

the Railway Executive to the International Union of Railways (Rolling Stock), the International Wagon Union, International Container Bureau and Interfrigo.

Mr. L. C. Barron, Head of Wages Staff Section, Regional Staff Officer's Department, Western Region, who, as recorded in our November 30 issue, has been appointed Staff Assistant to Motive Power Superintendent, Eastern Region, entered the G.W.R. service in 1923, at Swansea (Wind Street). After service at Swansea (High Street), Neath, and South Lambeth, he was transferred to the Chief Goods Manager's Office, Paddington, in 1934. In 1935 Mr. Barron went to the General Manager's Office, where he remained until transferred to the Staff & Establishment Office in 1945; he was appointed Head of Section (Rates of pay and conditions of Service—Wages Staff) in that Office in 1946.

Mr. S. E. Newman, Chief of Divisional Trains Office, London Midland Region, Derby, who, as recorded in our December 14 issue, has been appointed Assistant (Train Planning), Operating Department, Railway Executive headquarters, London, became a junior clerk on the Midland Railway in the Train Working Office at Fenchurch Street in 1916. After serving at several stations he was posted to Derby in 1925, where he gained experience in timetabling work and engine rostering in the divisional and headquarters offices of the L.M.S.R. He was transferred to Euston headquarters in 1935 on similar duties and was a member of the L.M.S.R. Chief Operating Manager's staff, handling evacuation schemes and the requirements of the Service Departments for the movement of personnel and stores. In 1940 he was put in charge of the section dealing with evacuation and military movements, and remained in this position throughout the war period. He was transferred to Derby in 1948 to take up the position of Chief of the Divisional Trains Office, dealing with the planning arrangements for timetables and engine and trainmen's rosters for the Midland Division of the London Midland Region Operating Area.

Mr. W. J. Garrod, Chief Clerk, Mineral Section, Commercial Superintendent's Office, Paddington, Western Region, who, as recorded in our December 21 issue, has been appointed Assistant to Executive Officer (Mineral Traffic), Commercial Department, Railway Executive headquarters, London, was educated at St. Marylebone Grammar School and entered the service of the Great Western Railway at South Lambeth Goods Station in 1923. He was on the staff of the Mineral Traffic Manager, Paddington, from 1928 until 1935, when he was appointed Junior Assistant to the District Goods Manager, Newport, transferring to a similar post at Gloucester in 1937. He became Goods Agent at Slough in 1941, at Oxford in 1945 and at Reading in 1949. In 1950, Mr. Garrod took up the position of Chief Clerk, Mineral Section, Commercial Superintendent's Office, Paddington. He holds the Brunel Silver Medal of the London School of Economics.

We regret to record the death on December 26, at the age of 64, of Mr. W. A. J. Clark, Parliamentary Assistant Solicitor to the British Transport Commission. He joined the Underground Electric Railways in 1921 as Assistant to the Legal & Parliamentary Officer, and on the formation of the L.P.T.B. he became the Parliamentary Assistant. He passed the

solicitors' final examination with distinction and was appointed Assistant Solicitor (General) of the Board in 1940, in which office he was responsible to the Solicitor to the Board for the Parliamentary work. Mr. Clark was appointed Parliamentary Assistant Solicitor to the British Transport Commission in 1947.

Mr. Peter Morrison, Traffic Manager of Western S.M.T. Co. Ltd., was taken to Kilmarnock Infirmary suffering from severe shock and injuries, including a broken leg and arm, following an accident on December 27.

Mr. K. M. Niall has relinquished the chairmanship of the Mount Lyell Mining & Railway Co. Ltd., but remains a Director. Mr. W. E. Bassett has been elected Chairman of the Company.

We regret to record the death on December 14 of Mr. Edward Watson-Smyth, C.B.E., M.I.Mech.E., at one time Director of Taylor Bros. & Co. Ltd., Manchester.

We regret to record the death on December 20 of Mr. R. C. Wade, B.Sc., A.M.I.E.E., of British Insulated Callender's Construction Co. Ltd. Mr. Wade was Engineer in charge of the contract for the installation of the overhead equipment on the Manchester-Sheffield railway electrification scheme.

The British Transport Commission has announced that a Traffic Costing Service has been established, and is staffed by officers of the Railway and Road Haulage Executives. The service, which has offices in London, Glasgow and York, will come under the general direction of Mr. A. W. Tait, Director of Costings, B.T.C., and will be in charge of Mr. D. M. Dear, Assistant Director of Costings. The following have been appointed Traffic Costing Officers within the new organisation:—

London

Messrs. R. L. Charlesworth, R. A. Long, S. W. Smith, Railway Executive. Messrs. G. Dickinson, C. T. Jarman, Road Haulage Executive.

Glasgow

Mr. C. J. G. Taylor, Railway Executive. *York*

Mr. F. T. Gray, Railway Executive.

Sir Francis Towle, C.B.E., Managing Director, Gordon Hotels Limited, whose death, at the age of 75, we recorded briefly in our December 28 issue, was the son of the late Sir William Towle, Manager of the Midland Railway Hotels, 1871-1914, and a brother of the late Mr. Arthur Towle, Controller of L.M.S.R. Hotel, Refreshment Room & Restaurant Car Services, 1925-44. Sir Francis Towle was educated at Marlborough and Trinity College, Cambridge, and in 1898 he and his brother, Arthur, became Joint Assistant Managers, Midland Railway Hotels Department, under Sir William Towle. In 1911 the brothers were associated directly with their father as Joint Managers, and on his retirement in 1914 they took over full control jointly. Towards the end of 1919 Sir Francis Towle left the Midland Railway service, and in 1921 became Managing Director, Gordon Hotels Limited, a position he held until 1936. He was at one time Resident Director of the Dorchester Hotel; and was President, International Hotel Alliance, 1935-38, and President, International Hotel Association, from 1946. During the 1914-18 war he held the rank of Lt.-Colonel in the R.A.S.C.

The New Year's Honours List

The following is a selection of honours of transport and industrial interest from the New Year list:—

Viscount

Sir John Anderson, G.C.B., G.C.S.I., G.C.I.E., F.R.S. For Political and Public Services. He is Chairman of the Port of London Authority; a Director of the Canadian Pacific Railway Company, and Imperial Chemical Industries Limited; and a former Director of the Southern Railway Company.

Knights Bachelor

Mr. John Lucian Blake, M.Sc., Comptroller-General, Patent Office.

Mr. Robert Furness Fryars, Chairman & Managing Director, A.C.V. Sales Limited.

The Hon. John Herman Lienhop, Agent General in London for the State of Victoria.

Mr. Henry Telfer Low, C.B.E., Vice-Chairman of the Railway Board, Southern Rhodesia. For public services.

Mr. Alexander Williamson, C.B.E., M.I.C.E., Chairman & Managing Director, William Beardmore & Co. Ltd. He is also Chairman of the Glasgow Railway Engineering Co. Ltd.

G.C.B. (Military Division)

General Sir Brian Hubert Robertson, Bt., G.B.E., K.C.M.G., K.C.V.O., C.B., D.S.O., M.C., A.D.C., late Corps of Royal Engineers. Colonel Commandant, Corps of Royal Engineers; Colonel Commandant, Corps of Royal Electrical & Mechanical Engineers.

C.B.

Mr. Ira Wild, C.M.G., O.B.E., A.S.A.A., Under-Secretary, Ministry of Transport.

K.B.E.

Sir Robert Abraham Burrows, Chairman of Directors, Remploy Limited. For Services to the Disabled. He was Chairman, London Midland & Scottish Railway Company, 1946-47.

The Right Honourable Horace Marton, Baron Terrington, C.B.E., Chairman, National Arbitration Tribunal.

C.B.E.

Mr. Henry Arnold, A.C.A., Chief Executive (Purchasing Manager), Pilkington Bros. Ltd. For services to the Salvage Drive.

Mr. Herbert Henry Burton, Director, English Steel Corporation Ltd.

Mr. Robert Franklin Newman, O.B.E., J.P., Director & General Manager, Transport Equipment (Thornycroft) Limited.

Mr. Denis Rebbeck, M.Sc., Ph.D., M.I.Mech.E., M.I.N.A., M.I.Mar.E., A.M.I.C.E., J.P., lately Deputy Chairman, Northern Ireland Festival Committee. He is a Member of Council of the Institution of Mechanical Engineers; Vice-Chairman, N.I. Association, Institution of Civil Engineers; Director, Harland & Wolff Limited.

Captain John Carrington Taylor, Professional Officer, Ministry of Transport.

Mr. Thomas Henry Windbank, M.I.E.E., Director, Crompton Parkinson Limited.

Mr. William Frederick Wegener, lately Chief Mechanical Engineer, Malayan Railway.

O.B.E.

Mr. David Dickson, M.B.E., Chief Executive Officer, Ministry of Transport.

Mr. Richard Guise Jacobs, Traffic Manager, Sudan Railways.

Mr. Alfred Victor Baker, M.B.E., Principal, Ministry of Transport.

Captain Robert Davis, M.B.E., J.P., Marine Superintendent, Eastern Region, Railway Executive.

Mr. William Henry George Lake, Ph.D., Works Manager, Imperial Chemical Industries Limited, Kings Norton, Warwickshire.

Mr. Robert Arthur Lovell, A.M.I.Mech.E., Senior Engineer, Ministry of Transport.

Mr. Charles Francis Pagnamenta, A.C.A., lately Head of Prices Department, British Iron & Steel Federation.

Mr. Henry Richard Payne, Head of Safety Organisation, Imperial Chemical Industries Limited, London.

Mr. Edgar Ringwood, Head of Department (Grade B), Crown Agents for the Colonies.

Mr. Arthur Ernest Tiffin, Assistant General Secretary, Transport & General Workers' Union.

M.B.E.

Mr. Hugh Ernest Victor Austen, Higher Executive Officer, Ministry of Transport.

Mr. Stanley Thomas William Benns, Senior Executive Officer, Ministry of Transport.

Mr. Henry Bramhall, M.M., Section Operating Manager, Winnington Works, Imperial Chemical Industries Limited.

Mr. Percy William Colley, A.M.I.Mech.E., Chief Designer, Birmingham & Midland Motor Omnibus Co. Ltd.

Mr. Allan Bertram Demmer, Operating Superintendent, Ceylon Government Railway.

Mr. Joseph William Ford, Office Manager, Central Scottish Motor Transport Co. Ltd., Motherwell.

Mr. Frank Fortt, Traffic Manager, Rhondda Transport Company.

Mr. Joseph Alfred George Gravestock. For services to the St. John Ambulance Brigade Movement, London Transport Executive.

Miss Sicelia Grace Greenfield, Personal Assistant to the Deputy Chairman, Docks & Inland Waterways Executive.

Mr. Herbert Haigh, Secretary, Railway Convalescent Homes.

Mr. George Edward Jenkins, Northern Area Manager, Removals Department, Bradford, Special Traffics (Pickfords) Division, Road Haulage Executive.

Mr. George Kontu Blankson De Graft Johnson, Assistant Locomotive Superintendent, Gold Coast Railway.

Mr. Ivor K'ein, Higher Executive Officer, Ministry of Transport.

Mr. Herbert Henry Leys, Assistant Engineer, Civil Engineering Department, Crown Agents for the Colonies.

Mr. Victor Richard Fiddian Peers, Designer, Simplex Electric Co. Ltd., Birmingham.

Mr. Bamunuarachchige Don Rampala, Chief Mechanical Engineer, Ceylon Government Railway.

Mr. Martin Saunders, District Operating Superintendent, Rugby, Railway Executive.

Mr. Henry Ernest Sharp, M.I.Mech.E., Chief Technical Engineer and Head of Research Department, J. I. Thornycroft & Co. Ltd., Southampton.

Mr. Sydney Bryan Taylor, Manager, Government Contracts, English Electric Co. Ltd., Bradford.

Mr. Frank Turner, Higher Executive Officer, Ministry of Transport.

Mr. Sidney Smith Wright, Higher Executive Officer, Ministry of Transport.

Honorary M.B.E.

Mr. Josiah Osibajo Adeusi, lately Chief Clerk, General Manager's Office, Nigerian Railway.

THE RAILWAY GAZETTE

I.L.O. Inland Transport Committee

Examination of labour problems resulting from transport co-ordination and of working conditions in international road traffic

The Inland Transport Committee of the International Labour Office, which met in Genoa last month, as recorded in our issue of December 7, reached agreement on a series of proposals designed to improve working conditions in inland transport throughout the world. The recommendations will go before the I.L.O. Governing Body in March for the necessary implementing action.

The fourth session was formally opened on December 4. Thirty-one States were represented. As Signor Cingolani, nominated by the Governing Body of the I.L.O. as Chairman, could not perform the ceremony, his place was taken by Signor Campanella, the Italian Employers' Member of the Governing Body Delegation. Other speeches were made by Signor del Bo, Italian Under-Secretary of State, Ministry of Labour & Social Welfare, and by the Mayor of Genoa.

Mr. Frank Gilbert (Employers' Delegate, United Kingdom) and Mr. Guruswami (Workers' Delegate, India) were elected Vice-Chairmen, and, in the continued absence of Signor Cingolani, presided over the plenary sessions. Mr. Gilbert was also elected Vice-Chairman of the Steering Committee and was called upon to conduct the proceedings of that body.

The Inland Transport Committee agreed that the social aspects of employment in civil aviation were the concern of the I.L.O., while the technical aspects were within the competence of the International Civil Aviation Organisation.

International Road Traffic

In response to a request from the United Nations, the Committee prepared a series of clauses governing employment set conditions to be inserted in a standard set of rules for the operation of road transport undertakings in international traffic in Europe. These rules are being prepared by the United Nations Economic Commission for Europe. The proposed employment clauses cover a 48-hr. working week and a

daily rest period of at least 12 hr., also weekly rest periods, holidays, wages, safety, social security, and so on.

Co-ordination of Transport

On the recommendation of a sub-committee which considered labour problems arising out of the co-ordination of transport, the Committee proposed that workers' and employers' organisations and governments should "make every effort to assure a greater equivalence in the conditions of work and employment of workers engaged in the various branches of transport. This policy should aim at eliminating, or at least at mitigating progressively, the differences which exist or may exist between various branches of transport or between transport undertakings in respect of wages, social charges, and the conditions of employment relating to work involving similar degrees of skill and responsibility."

The Committee further suggested that the grant of an authorisation to operate a transport undertaking should be made conditional on observance of certain standards relating to wages, hours of work, and other working conditions.

In other resolutions, the Committee asked the I.L.O. to inquire into working conditions in North Sea and Channel ports and drew attention to the need for the adequate training of dock workers.

CAMPAIGN FOR SPEEDIER WAGON TURN-ROUND.—The Signal & Telecommunications Engineer of the Eastern Region has sent out three notices to the staff as part of the campaign to speed the clearance of wagons this winter and help to "keep the wheels turning." It is stressed that although there are 20,000 more wagons this winter than last, 5,000,000 tons more traffic is expected; quick turnaround of wagons is therefore essential. Signal failures, which cause delay, restricting wagons and engine power should be prevented by careful maintenance.



Mr. Frank Gilbert (third from left) presiding at a plenary session of the I.L.O. Inland Transport Committee

British Transport Commission Statistics (Period No. 11)

Summary of the principal statistics for the four-week period ending November 4

STAFF

	B.T.C. Head Office	British Railways	London Transport	British Road Services (Road Haulage)	Road Passenger (Provincial & Scottish)	Hotels & Catering	Ships & Marine	Inland Waterways	Docks Harbours, Wharves	Railway Clearing House	Commer- cial Adver- tisement	Legal	Films	Total
Number ...	277 +1	598,145 -1,690	99,182 +216	80,704 -43	59,502 -507	16,873 -681	6,135 -24	4,906 +5	19,922 -70	641 -1	199 +1	300 -1	40 +2	886,826 -2,792
Inc. or dec.														

LONDON TRANSPORT

BRITISH TRANSPORT COMMISSION TRAFFIC RECEIPTS

	Four weeks (Period No. 11)		Aggregate for 44 weeks	
	1951	1950	1951	1950
	£000	£000	£000	£000
British Railways—				
Passengers	6,871	6,867	92,610	92,445
Parcels, etc., by passenger train	2,548	2,513	27,844	25,747
Merchandise	8,135	7,523	81,960	72,594
Minerals	3,123	2,834	30,389	27,206
Coal & coke	7,544	6,682	76,383	64,929
Livestock	240	328	1,225	1,513
	28,461	26,747	310,411	284,434
British Railways—				
C. & D. and other road services	825	803	8,900	8,074
Ships and Vessels	701	657	10,555	9,610
London Transport—				
Railways	1,234	1,246	13,587	12,234
Buses & coaches	2,646	2,439	28,530	26,174
Trams & trolleybuses	717	827	8,210	8,955
	4,597	4,512	50,327	47,363
British Road Services—				
Freight charges, etc.	6,560	5,504	64,977	52,209
Road Passenger Transport	3,151	2,762	37,224	32,953
Docks, Harbours & Wharves	1,199	918	11,758	9,967
Inland Waterways	155	131	1,519	1,344
Hotels & Catering	1,168	1,115	13,673	12,347

	Passenger journeys	Inc. or dec. per cent. over 1950	Car miles	Inc. or dec. per cent. over 1950
Railways	000	— 3.5	000	— 1.1
Buses & coaches	47,763	+ 8.1	26,388	+ 7.3
Trams & trolleybuses	228,673	+ 13.4	7,097	+ 13.3
Total	347,243	+ 1.3	51,053	+ 1.0

INLAND WATERWAYS
Tonnage of traffic and ton-miles

	Tonnage	Incl or dec. per cent. over 1950	Ton miles	Inc. or dec. per cent. over 1950
Coal, coke, patent fuel & peat	000	—	000	—
Liquids in bulk	488	+ 12.1	7,086	+ 14.6
General merchandise	147	+ 6.8	3,725	+ 11.1
	358	+ 1.4	5,708	+ 3.5
Total	993	+ 5.0	16,519	+ 3.9

BRITISH RAILWAYS
Rolling Stock Position

	Operating stock	Number under repair	Available operating stock	Serviceable stock in 1950
Locomotives	19,281	3,335	15,508	15,640
Coaching vehicles	57,689	5,109	52,580	52,616
Freight wagons	1,109,623	78,117	1,031,506	1,013,156

BRITISH RAILWAYS
Passenger Journeys (Month of September, 1951)

Full fares	Monthly returns	Excursions, cheap day, etc.	Other descriptions	Workmen	Season tickets	Total	Inc. or dec. per cent. over 1950
6,972,000	11,147,000	23,464,000	4,252,000	17,309,000	35,599,000	98,743,000	+ 0.6

BRITISH RAILWAYS
Freight Tonnage Originating and Estimated Ton-Miles (Period No. 11)

	Minerals	Merchandise	Coal & coke	Livestock	Total	Inc. or dec. per cent. over 1950
Tons originating Ton-miles	003 5,005 436,438	000 4,297 573,999*	000 13,560 868,813	000 129	000 22,991 1,879,250	-0.1 +3.3

* Includes livestock.

BRITISH RAILWAYS (Period No. 11)

	Total steam coaching train-miles	Total electric coaching train-miles	Total freight train-miles	Freight train- miles per train engine-hour	Net ton-miles per total engine-hour	Locomotive coal consumption	
						Total tons	Lb. per engine-mile
1951...	13,636,000	3,731,000	11,322,000	8.1	607	1,035,000	62.1
1950...	14,341,000	3,743,000	11,410,000	8.2	590	1,060,000	62.1

The Railway System of Libya

A survey of the lines of the newly-constituted Arab Kingdom

The new Arab kingdom of Libya, formed of Cyrenaica, Tripolitania, and the Fezzan, was proclaimed at Benghazi, its capital, on December 24, 1951. It covers an area of 679,182 sq. miles, and has some 888,000 inhabitants, including about 350,000 in Cyrenaica and 50,000 in Fezzan.

While the countries formed provinces of the Ottoman Empire no railways existed, but to facilitate their military operations against the Turks in 1911-12 the Italians built a few short narrow-gauge light railways extending south from Benghazi and Tripoli. The first were in working order by December, 1911, though not open for civilian traffic. Originally of 2 ft. 5½ in. (750 mm.) gauge, they were subsequently converted to their present gauge of 3 ft. 1½ in. (950 mm.).

The military administration handed the lines over to the Italian State Railways which owned and worked them until 1922 when they were taken over by the Ministry of the Colonies. When Italian domination ended in 1942 the British instituted a provisional administration pending the final decision on the future of Libya. Only Fezzan, liberated and occupied by the French in January, 1943, was left outside the British-administered territory.

The Italians built two separate systems, one based on Benghazi, the other on Tripoli. By the end of 1939, their combined length was 248½ route-miles. Two lines radiate from Benghazi. One, 67 miles long, runs from Benghazi eastwards ascending the Djebel region, agriculturally the most important area in Libya, and turning north to connect with Barce, the economic centre of the Djebel. The other, 35 miles long, connects Benghazi with Soluk, also an agricultural centre, in the south. There is a harbour line at Benghazi, one mile long. Altogether, the railway system of Cyrenaica, which is steam-worked throughout, has a total of 103 route-miles.

Because of the economic plight in which the British found Cyrenaica after the withdrawal of the German-Italian forces it was thought best to close the lines in September, 1946, and to keep them on a care and maintenance basis only. Not until March, 1948, were they reopened for commercial operation.

The name which was given by the British to the system, Benghazi Barce & Soluk Railway, was changed to Cyrenaica Railway on April 1, 1949, when the British Foreign Office took over the administration from the military. In October, 1949, the railway became a responsibility of the Public Works Department of the Government of Cyrenaica which had been set up on June 1, 1949. The system is shortly to be handed over to the Public Works Department of the new Libyan Government.

Lines in Tripolitania

In Tripolitania, the longest line is from Tripoli along the coast for 73 miles as far west as Zuara, 31 miles east of the Tunisian frontier. There was a scheme before the 1939-1945 war to extend it westwards for about 25 miles to Pisida, but this was never carried out. From Ghiran, eight miles west of Tripoli, a line runs south to Garian, 52½ miles. An extension, some two miles long, from Garian to Tegriana in the south, was completed just before the

war. A third line runs from Tripoli inland to the south-east as far as Fornaci Junction, 5½ miles from Tripoli, and thence east towards the coast, ending at the port of Tagiura, 13 miles from Tripoli. From Fornaci a branch, not open to civilian traffic, runs to Ain Zara Fort, about three miles. There is another junction five miles east of Fornaci from which a line leads northwards to the U.S.-controlled El Melha aerodrome on the coast.

Pre-war development schemes were the extension of the Ain Zara Fort branch to Castel Benito, some ten miles, and extension beyond Tagiura to the port of Homs, about 50 miles further east, and to Misurata, the second harbour of Tripolitania, some 56 miles east of Homs. Nothing came of these schemes as priority was given to the development of the road system, particularly the 1,132-mile motor road, completed in 1937, along the coast from the Tunisian frontier in the west to the Egyptian frontier in the east.

The British Administration formed the lines radiating from Tripoli into a system known as Tripolitania Railways, which also are shortly to become the Libyan Government Railways.

The Western Desert Railway

Before the 1939-1945 war the Egyptian Western Desert Railway, a single-track standard-gauge line along the Mediterranean coast, connected Alexandria with Mersa Matrouh in the west, about 200 miles. By February, 1942, the British had completed a standard-gauge extension, 108 miles long, westwards to Habata Station. This was subsequently extended farther west to the Cyrenaica frontier at Mu'Said, 30 miles from Habata, and thence into Libyan territory, with Capuzzo as the Libyan frontier station, to Bir El Hamid, 15 miles from the port of Tobruk, or 60 miles from the frontier. When Tobruk was liberated it became the rail-head. The section between Tobruk and Capuzzo was closed to all traffic on December 20, 1946.

The traffic on the Libyan railways has never been intensive, mainly because of the sparse and largely nomadic population and the economic backwardness of the countries. Before the war, on the Tripoli-Zuara line there was a daily diesel service each way (first and second class only) covering the distance of 73 miles in 2½ hr., and a steam-hauled mixed passenger-goods train (three or four times a week each way) took three to seven hours. A scheme to dieselise all passenger and goods services on both systems was drawn up in 1936.

On the Tripoli-Ghiran-Garian line, with gradients of 1 in 50 south of Ghiran to Garian Vertice (Garian Peak), the daily steam-hauled passenger train took 4½ hr. to cover the distance of just over 60 miles. On Mondays there was a fast railcar taking 3 hr. 45 min. Also, when necessary, a mixed passenger-goods train was run, taking from four to five hr. The British Administration has closed the southernmost section of the Garian line, and its terminus is now El Azizia, 31 miles from Tripoli.

The mainstay of the goods traffic is the conveyance of agricultural produce, vegetables, tobacco, and citrus fruit to be exported from Benghazi or Tripoli. These commodities are the principal exports, as

before the war. In the year ended June 30, 1939, the Libyan railways conveyed 264,493 tonnes and 716,550 passengers. The motive power then consisted of 15 0-8-0 tender locomotives, two diesel railcars with accommodation for 48 passengers each, 17 bogie passenger coaches, 151 goods wagons, and 22 water tank wagons.

Centenary of Bergen Steamship Co. Ltd.

The Bergen Line (*Det Bergenske Dampskibsselskab*) was founded in Bergen in December, 1851. Its first ship, the *Bergen*, a paddle steamer of 476 tons, started a service between Bergen and Hamburg. The route to England was not inaugurated until 1890; this was looked upon at the time as an event of considerable importance and great crowds gathered on the quay when the *Mercury* left Bergen for Newcastle on May 31 of that year.

In 1909 the opening of Oslo-Bergen railway facilitated closer communication with England via Bergen and Newcastle. The route assumed great importance during the earlier part of the 1914-18 war, when it was the only route open to northern Europe and Russia, until unrestricted submarine warfare caused suspension of sailings in 1917.

A new era in North Sea ships opened in 1931 with the completion for the Newcastle-Bergen service of the *Venus*, a motorship of nearly 6,000 tons with accommodation for 203 first class and 76 second class passengers and a speed of 20 knots; in 1938 she was joined by the even faster and larger *Vega*. In the twenty years between the two world wars, tourist traffic from Britain to Norway showed a remarkable increase.

During the war of 1939-45, the company lost 29 out of its 51 ships, sinkings including the *Venus* and *Vega*. It was possible to save the *Venus*, which returned to service in 1948. The fleet now numbers 36 ships. Many new vessels have been placed in service to replace war losses and out-of-date vessels. A new ship for the Bergen-Newcastle service is to be built on the Tyne, due for delivery early in 1953; she will be larger and faster than the *Venus*, with a large amount of tourist accommodation.

Rail Connections

Until 1928, the ships on the Newcastle-Bergen service used Newcastle Quay, passengers being conveyed by road between Newcastle Central Station and the Quay. The Tyne Improvement Commission constructed a new deep water quay, known as Tyne Commission Quay, at North Shields, nearer the mouth of the river Tyne, opened in June, 1928, and provided with rail facilities and a passenger platform; special boat trains were run between Newcastle Central Station and Tyne Commission Quay via Percy Main, with through coaches for boat passengers from and to Kings Cross. With the growth of the tourist traffic to Norway, a special boat train, the "Norseman," was run in the summer service between Kings Cross and Tyne Commission Quay.

The quay at Bergen is rail-served, and boat trains run to and from Bergen Central Station. In the summer of 1951, the Norwegian State Railways put into service over the Bergen-Oslo line a new diesel train, the "Bergen Express," which connected with the arrivals of the *Venus* at Bergen and reduced the journey time from Bergen to Oslo from 12 hr. to 7 hr. 50 min.

With the completion of the railway from Stavanger via the south coast to Oslo, pas-

sengers have had the alternative of using the Stavanger route to Oslo as well as that provided via Bergen. All Bergen Line sailings between Newcastle and Bergen operate via Stavanger during the winter months, but certain sailings only during the summer.

Monthly Return Fares Increased

Because of the increase in railway working costs, the Railway Executive has found it necessary to raise monthly return fares (which are below the level of ordinary statutory fares) by about 10 per cent, as from January 1. The Executive points out that this latest increase was deferred as long as possible.

Before the war, the third class monthly return fare cost fractionally over 1d. a mile. The previous increase in these fares took effect in October, 1947, and brought the average rate up to 1·63d. a mile. The increase from January 1 raises the average cost to some 1·4d. a mile.

Examples of old and new third class monthly return fares are as follow:—

Between	Previous fare s. d.	New fare s. d.
<i>Eastern Region</i>		
London-Edinburgh	107 6	118 3
London-Leeds	50 6	55 7
Peterborough-Grimbsy	21 7	23 9
<i>London Midland Region</i>		
London-Glasgow	109 0	119 11
London-Birmingham	30 6	33 7
Liverpool-Manchester	8 11	9 10
<i>North Eastern Region</i>		
Newcastle-York	22 9	25 1
Leeds-Scarborough	18 9	20 8
York-Leeds	7 4	8 1
<i>Scottish Region</i>		
Inverness-Carlisle	73 3	80 7
Edinburgh-Aberdeen	34 7	38 1
Glasgow-Edinburgh	9 4	10 4
<i>Southern Region</i>		
London-Exeter	46 9	51 6
London-Southampton	21 7	23 9
London-Brighton	14 3	15 9
<i>Western Region</i>		
London-Cardiff	41 10	46 1
Plymouth-Coventry	61 6	67 8
Bristol-Newport	9 4	10 4

Steamer Fares Not Affected

Through monthly return fares between stations in Great Britain and the Channel Islands and Ireland are not affected, and the fares by Clyde and other river and lake steamer services operated by British Railways remain as before.

MANILA RAILWAY CO. (1906) LTD. MORTORIUM.—Debenture holders of the Manila Railway Co. (1906) Ltd. have been notified that the moratorium begun in 1943 should be further extended until January 14, 1945, with power to prolong it from that date up to two years. The chief asset of the company is \$13,236,000 of 5 per cent. refunding mortgage bonds due 1956 of the Manila Railroad. The interest on these bonds is in arrear since July 1, 1941, and these arrears amounted at June 30, 1951, to \$6,618,000. The circular draws attention to the Bell report, the work of the U.S. Survey Commission headed by Mr. D. W. Bell, President of American Security & Trust Company, which stated that the Manila Railroad should be regularised and its operations placed on a paying basis. As yet, none of the financial assistance proposed in the report has been provided, but the board was recently informed that, at the request of E.C.A., a committee of American railway experts is leaving shortly for the Philippines to study and report on the position.

Staff & Labour Matters

Mineworkers' Wages

Agreement finally has been reached between the National Coal Board and the National Union of Mineworkers on pay increases. Most underground workers will receive an additional 13s. 6d. for a full weeks work and most surface workers an additional 11s. 6d. The minimum rate will be 140s. 6d. a week for underground and 121s. 6d. for surface workers. The new rates are retrospective to the end of November. A joint committee is to consider the industry's wage structure.

In a recent joint statement, the N.C.B. and the N.U.M. said they confidently expected the wage increases to stimulate recruitment and reduce manpower wastage. The improved rates for juveniles should attract many more young men and, with the new pension scheme, encourage them to make mining their career.

The miners have agreed to forgo the second week's annual holiday which has been granted to them, so that production shall not suffer.

HOLMAN BROS. LTD. ACQUISITION.—Holman Bros. Ltd. have acquired an interest in the Climax Rock Drill & Engineering Co. Ltd. with a view to making the best use of the combined productive capacity and sales organisation of both companies. Mr. A. T. Holman, Chairman & Joint Managing Director, and Mr. P. M. Holman, Joint Managing Director of Holman Bros. Ltd., have been appointed to the board of the latter firm.

Contracts & Tenders

The closing date of the call for tenders (No. 2227) issued by the Government of New South Wales for suburban electric motor and trailer coaches is reported to have been extended from February 6 to April 30, in a recent statement from the Board of Trade Special Register Information Service. The tender was previously referred to in our August 10 and November 16 issues.

The Board of Trade Special Register Service states that a call for tenders (No. ME. 1301) has been issued by the Commonwealth Railways, Australia, for the manufacture, supply and delivery of two, or four, standard-gauge diesel locomotives of 1,300 h.p. rating, and/or two, or four, standard-gauge diesel locomotives of 1,600 h.p. rating.

Tenders should reach the Secretary, Commonwealth Railways, Melbourne, C.1, before 4 p.m. on February 26. A copy of the specifications and drawings is available for inspection by representatives of United Kingdom manufacturers at the Board of Trade, Commercial Relations & Exports Department, S.W.1.

A further report by the Board of Trade Special Register Information Service states that a call for tenders (No. C.M. 181) has been issued by the Ferrocarril Central del Uruguay for the supply of steel and copper boiler tubes, smokeboxes, and copper pipes and thimbles for locomotives. Tenders should be addressed to the Administracion del Ferrocarril Central del Uruguay, Ciudad, Uruguay, and should reach there by 10 a.m. on January 29.

A copy of the specification (in Spanish) and drawings is available for inspection by representatives of United Kingdom

manufacturers at the Board of Trade, Commercial Relations & Exports Department. A second copy is available for loan to United Kingdom manufacturers in order of written application to the Department. Reference C.R.E. (IB) 78807/51 should be quoted.

Notes and News

Foreman Platelayer Required.—Applications are invited for the post of foreman platelayer for overseas work required by Pauling & Co. Ltd., Victoria Street, S.W.1. See Official Notices on page 26.

Simplon Line Reopened.—The Simplon line, blocked since November 12 by a landslide near Varzo, on the Italian side of the Simplon Tunnel, north of Domodossola, was reopened to traffic on December 27.

Messrs. Livesey & Henderson.—As from January 7, the address of Messrs. Livesey & Henderson, Consulting Engineers, will be National House, 12-18, Moorgate, London, E.C.2. The telephone numbers will remain Monarch 2173 and 2174 and the telegraphic address "Livesey London."

Vacancy for Junior Civil Engineer.—Applications are invited by the Peruvian Corporation for the post of junior civil engineer, between 24 and 26 years of age, required for maintenance and general construction work on the Central of Peru Railway. See Official Notices on page 27.

Pasenger Trains Reinstituted in Eastern Region.—A number of Eastern Region suburban trains on services from and to Kings Cross, Moorgate, and Broad Street are to be reinstated as from January 7, from which date also the restaurant car is to be reinstated in the "Broadsman" between Liverpool Street, Ipswich, Norwich, and the Norfolk coast, in lieu of the existing buffet car.

Railway Benevolent Institution.—At its meeting on December 19 the board of the Railway Benevolent Institution granted annuities to 14 widows and eleven members involving an additional liability of £225 10s. a year; 38 gratuities amounting to £448 10s. were also granted to meet cases of immediate necessity. Grants made from the casualty fund in November amounted to £511 5s. 6d.

Scottish Region Theatre Specials.—Combined rail and theatre excursions for large and small organised parties were arranged by the Scottish Region of British Railways during the Christmas and New Year holidays. There was a special train from Bathgate at 5.50 p.m. on December 26 to carry a party of 500 members and friends of the Bathgate Merchants Association to Edinburgh to see the pantomime at the King's Theatre. Buses met the party at Haymarket Station on arrival, and after the show conveyed them to Waverley Station to catch the return special, which left at 11.5 p.m.

Institution of Locomotive Engineers.—At a meeting of the Institution of Locomotive Engineers to be held on January 16 at the Institution of Mechanical Engineers' Storey's Gate, London, S.W.1, at 5.30 p.m., a paper entitled "New Steel Electric Railway Stock for the Indian Government Railways," will be read. The subject will be dealt with in three separate parts: "A Quarter Century of Progress in Indian

Electric Stock," by Mr. S. E. Lord; "Structural Design of Lightweight Steel Coaches for Indian Government Railways," by Mr. J. F. Thring; and "Operational Performance and the Electrical Equipment of the New Multiple-Unit Rolling Stock for India," by Mr. H. H. C. Barton.

British Railways Clyde Steamer Sailings.—As from December 27 British Railways steamers from Wemyss Bay have resumed calling at Millport (Old Pier) which was closed for repair on September 25. Since then steamers have called only at Keppel Pier.

British Railways Coal, Iron, and Steel Carrying.—During the 48 hours ended 6 a.m., December 31, British Railways cleared 308,270 tons of coal from deep-mined pits and opencast sites, making an estimated total of over 168,000,000 tons for the year. The latest available iron and steel figures show that 202,408 tons were conveyed from the principal steel works during the week ended December 15.

"Golden Arrow" Archway at Victoria Station.—The ornamental archway to the departure and arrival platforms of the "Golden Arrow" at Victoria Station, London, has recently been illuminated with neon lighting, carried out by Claude General Neon Lights Limited to the requirements of the Public Relations & Publicity Office, Southern Region. The original design for the archway, which was

by Mr. John Elliot, Chairman, Railway Executive, when he was Deputy General Manager of the Southern Railway, has been maintained. The archway is illuminated 30 min. before the departure and 30 min. before the arrival of the "Golden Arrow."

Double-deck Trains in East Germany.—According to a recent report, double-deck passenger coaches are being introduced this month by the State Railways in the Russian Zone of Germany. Details of the stock are not yet available.

British Railways New Sleeping Cars Go Into Service.—The first of the British Railways two-berth third class sleeping cars described and illustrated in our issue of November 30, 1951, are to go into service on January 7 on certain Anglo-Scottish expresses between Euston and Glasgow. Services on which the cars will first be introduced are: Euston to Glasgow, 9.10 p.m. SX, 9.25 p.m., 11.40 p.m. SX, 11.30 p.m. SO; Glasgow to Euston, 10.20 p.m. SX, 9.25 p.m., 10.30 p.m.

Modernisation of Kilmarnock Goods Station.—The Scottish Region of British Railways is introducing a scheme of modernisation in the goods depot at Kilmarnock, Ayrshire, to speed the handling and despatch of traffic. Structural alterations to the building and its internal layout will enable additional vehicles to be placed end-on to the platform. Discharge of traffic from wagons will thus be expe-

dited through localising operations and will reduce the barrowing of traffic between rail and road vehicles. Alterations to the goods shed will also facilitate the handling of traffic by affording additional facilities for outward despatch. Work on the scheme, already commenced, will be completed early this year.

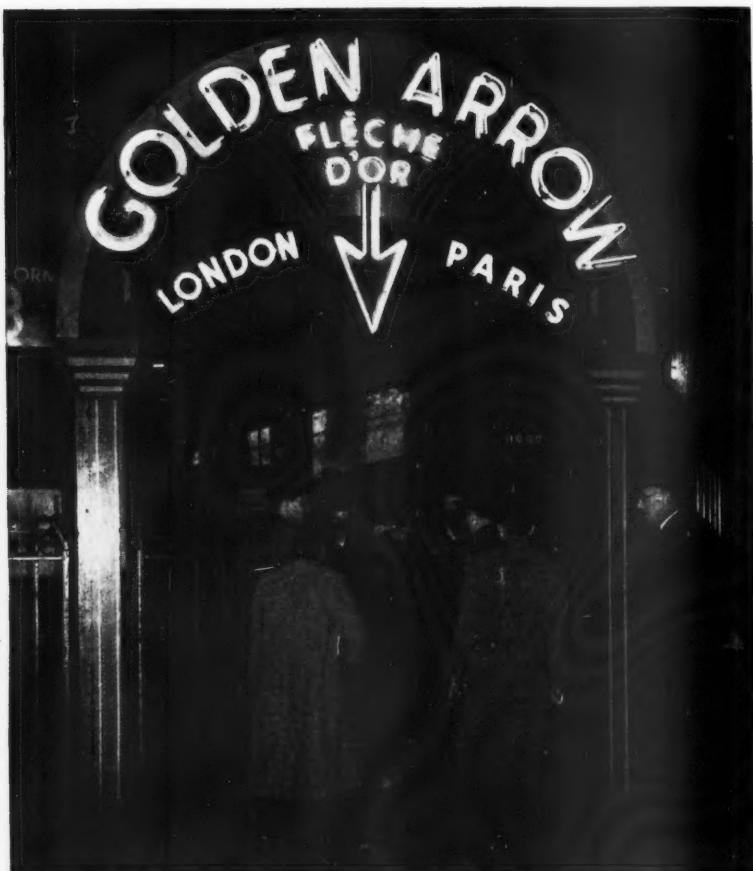
Worker-Employed Negotiations Scheme for U.T.A.—The Northern Ireland Ministry of Commerce has made regulations, entitled the Ulster Transport Authority (Terms & Conditions of Employment) (Northern Ireland) (No. 3) Regulations, 1951, which provide for the establishment and maintenance of machinery for the settlement by negotiation of the terms and conditions of employment of workers employed by the U.T.A. under shop conditions in the building and civil engineering trades. In default of settlement by negotiation, the regulations provide for the reference of certain staff matters to a tribunal.

Collision at Annan.—An express freight train from Carlisle collided with a light engine on the main Carlisle to Glasgow St. Enoch line just outside Annan Station, Scottish Region, on December 19. The collision took place a few yards south of a bridge spanning a 40-ft. drop. The fireman of the freight train was injured. The driver of the freight train and the fireman of the light engine escaped injury, as did both guards. The engines remained upright, but several wagons were smashed and hurled down the embankment. Both lines were blocked, and traffic was diverted by way of Lockerbie. A bus service was operated to take passengers between Dumfries and Carlisle.

Institute of Transport.—Two changes have been made in the programme of meetings of the Institute of Transport for the remainder of the 1951-52 session. At the meeting arranged for January 14, Mr. E. L. Taylor, Executive, British Electric Traction Co. Ltd., and Deputy Chairman, British Travel & Holidays Association, will present for discussion a paper on "Transport and the tourist industry." The 1952 Brancier Memorial Lecture will be delivered on February 11 by Air Chief Marshal Sir Frederick Bowhill, Chief Aeronautical Adviser to the Ministry of Civil Aviation, who will take for his subject "The Flying-boat and its Place in Aviation." Both of these meetings will be at 5.45 p.m. at the Jarvis Hall, 66, Portland Place, London, W.1.

Road Haulage Executive Chairman's Christmas Message to British Road Services Staff.—Major-General G. N. Russell, Chairman of the Road Haulage Executive, in a Christmas message to the staff of British Road Services, said that 1951 marked the completion of the building of their organisation. They had now to press on with efforts to perfect their services to trade and industry, increase efficiency, and ensure economy. All depended on the individual, to whom the Executive looked for the co-operation essential to make their common venture a complete success. He summed up his message in the words: "Hats off to the past, and coats off to the future."

Handling of Emergency Traffic to Paris.—Fog, and the strike of Air France crews, caused cancellation of all air services from London to Paris on December 21. To convey passengers who had booked by air, British Railways arranged at short notice to convey them by the Dover/Calais,



"Golden Arrow" ornamental archway at Victoria Station, London, which has recently been illuminated

OFFICIAL NOTICES

PAULING & CO. LTD., require active Foreman Platelayer for overseas work, laying 30 lb. F.B. track, 30" gauge on wood & steel sleepers. Write giving details of experience:—26, Victoria Street, S.W.1.

JUNIOR CIVIL ENGINEER required for maintenance and general construction work on the Central Railway of Peru (a mountain railway); residence would be at an altitude of 10,000 feet. Single man of about 24 to 26 years of age preferred. Railway experience and/or knowledge of Spanish desirable but not essential. Apply to the Secretary of THE PERUVIAN CORPORATION LTD., 144, Leadenhall Street, London, E.C.3.

LOCOMOTIVE. Carriage and Wagon Senior Draughtsman, 30/35 years of age. Qualifications: Must have served a full general apprenticeship in an engineering workshop (preferably railway) and have had at least five years Drawing Office experience with some time in an executive capacity. A knowledge of Spanish an advantage. Future prospects. Apply to the Secretary, PERUVIAN CORPORATION LTD., 144, Leadenhall Street, London, E.C.3.

RAILWAY MAINTENANCE PROBLEMS. By R. H. A. Hull (late District Engineer, L.M.S.R.). Valuable information. With much sound advice upon the upkeep of permanent way. Cloth. 8½ in. by 5½ in. 82 pp. Diagrams. 5s. By post 5s. 3d. The Railway Gazette, 33, Tothill Street, London, S.W.1.

Dover/Dunkirk, and Southampton/Havre routes. For passengers via Calais, a relief boat train was run to Dover. On the Dunkirk route additional boat trains were run from Victoria to Dover and from Dunkirk to Paris. On the Havre route a special train was run from Waterloo to Southampton in the evening, and arrangements made for the s.s. *Isle of Sark* to replace the s.s. *Hantonio* to give an additional lift; a special train was provided from Havre to Paris the next morning. These arrangements were made by the Continental Superintendent, Southern Region, in conjunction with the Docks & Marine Manager, Southampton, and the French National Railways.

Increase in Coach Fares.—Fares on long-distance coaches operating from London are to be increased by 6½ per cent. from April 10. Higher operating costs are responsible for the rises. The Metropolitan Licensing Authority recently granted the application of the Central Fares Committee on behalf of coach operators. This latest increase raises rates within the London area to 33½ per cent. above pre-war. Early in 1947 fares were revised to a general level of 16½ per cent. over 1939 rates and in December, 1950, there was a further advance to 25 per cent. over pre-war.

Train Service Interrupted by Gale.—During the gale on December 29, waves swept across the quay road at Ryde, Isle of Wight, and into the covered way through which runs the Southern Region line between Ryde Esplanade and Ryde St. Johns Road stations; the train service was interrupted for some hours, and a temporary bus service operated for passengers from and to the mainland by the Portsmouth-Ryde steamer service. The Fishguard-Waterford steamer was delayed on December 27-29 by the exceptionally rough weather.

Coal Output Increased in 1951.—The production of coal in 1951 exceeded 222,000,000 tons, the highest estimate made in the Government Economic Survey for the year. Provisional figures issued by the Ministry of Fuel give deep-mine output as 211,131,800 tons and opencast as 10,985,700 tons up to December 29. The Survey estimated that deep-mine production would be between 208 and 210

JUNIOR CONTRACTS ENGINEER required by manufacturers of diesel-electric locomotives. Applicants should be between the ages of 22 and 30, with technical training to graduate I.E.E. or I.Mech.E. standard and preferably practical experience of an apprenticeship with Manufacturers of diesel-electric traction equipment. The post will involve the commercial and general technical aspects of diesel-electric locomotive manufacture and it will be an advantage if applicants possess previous contracts experience of this nature. Excellent prospects for man with personality and ambition. Applications in confidence to Box 309, *The Railway Gazette*, 33, Tothill Street, London, S.W.1.

RAILWAY SIGNALLING AND COMMUNICATIONS INSTALLATION AND MAINTENANCE. A practical guide, especially intended to help Signal Inspectors, Installers, Fitters, Linesmen, Draughtsmen, and all concerned with installing and maintaining Signal, Telegraph, and Telephone Equipment. 416 pp. Many illustrations. Cloth. 8s. By post 8s. 6d. *The Railway Gazette*, 33, Tothill Street, London, S.W.1.

THE "PAGET" LOCOMOTIVE. Hitherto unpublished details of Sir Cecil Paget's heroic experiments. Eight single-acting cylinders with rotary valves. An application of the principles of the Willans central-valve engine to the steam locomotive. By James Clayton, M.B.E., M.I.Mech.E. Reprinted from *The Railway Gazette*, November 2, 1945. Price 2s. Post free 2s. 3d. *The Railway Gazette*, 33, Tothill Street, London, S.W.1.

JUNIOR TRAFFIC OFFICIALS with railway traffic apprenticeship experience. Age about 25, single. Required for service on railways in Peru and Bolivia. Apply to the Secretary of the PERUVIAN CORPORATION LIMITED, 144, Leadenhall Street, London, E.C.3.

TRACTION Motor Draughtsmen and Designer Draughtsmen required by manufacturers of diesel electric locomotives. A sound knowledge of the mechanical as well as the electrical design of traction motors is essential and applicants should have a wide experience of modern design and production methods in this class of work. Good salaries will be paid to men having these qualifications and special consideration will be given to other problems connected with the engagement of Senior Staff. Three years' agreement and every facility to find suitable living accommodation will be given. Please apply giving full details of training, experience, age, etc., to Box 322, *The Railway Gazette*, 33, Tothill Street, London, S.W.1.

ROUND VOLUMES.—We can arrange for readers' copies to be bound in full cloth at a charge of 25s. per volume, post free. Send your copies to the SUBSCRIPTION DEPARTMENT, Tothill Press Limited, 33, Tothill Street, London, S.W.1.

JUST PUBLISHED.—Twenty-Five Years of the North Eastern Railway, 1898-1922. By R. Bell, C.B.E., Assistant General Manager, N.E.R. and L.N.E.R. Companies, 1922-1943. Full cloth. Cr. 8vo. 87 pages. 10s. 6d.—*The Railway Gazette*, 33, Tothill Street, London, S.W.1.

million tons, but forecast a higher opencast yield of 11 to 12 million tons. The total of about 222,117,500 tons compares with 216,311,700 tons in 1950 and 215,097,300 in 1949. Production in 1936, nearly all deep-mine, was 228,453,000 tons, in 1937 240,411,000, and in 1938 227,016,000 tons.

Institute of Transport (Northern Ireland Section).—The monthly meeting of the Northern Ireland Section, Institute of Transport, took place in the Headquarters of the Ulster Transport Authority, 21, Linenhall Street, Belfast, on December 20. The Chairman of the Section, Mr. J. W. Hutton, presided. A paper entitled "My trip to the U.S.A. and Canada" was to

have been read by Colonel S. G. Haughton, Chairman of the Northern Ireland Shipowners' Association. He was unable to attend and the paper will be read on another occasion. Instead, films were shown.

Record Wage Increases.—The December issue of the *Ministry of Labour Gazette* estimates the aggregate increase for November, 1951, at £1,419,000 in the weekly full-time wages of about 3,096,000 workers. This is more than the aggregate for the whole of 1949, and a record, and wage increases in 1951 almost equalled the rise in prices. The November figures bring the estimated increase in weekly wages for the first eleven months of 1951 to

Launching of British Railways Car Ferry



Mrs. John Elliot, wife of the Chairman of the Railway Executive, launching the "Lord Warden" at Dumbarton on December 14. Mr. John Elliot and Sir Maurice Denny are seen on the right (see our issue of December 28)

£5,940,400, and the number of workers affected to 11,943,500. These figures are also without precedent. The total increase is more than twice as much as in the whole of any previous year since 1920, when the increase was £4,973,000. In 1921, there was an aggregate decrease of rather more than £6,000,000, and in 1922 of more than £4,000,000. The estimated weekly increases were £841,000 in the transport and communications group, the second highest after £1,311,600 in the engineering and vehicles group. The award of an 8 per cent. increase on existing rates of pay to railwaymen, increased British Railways' wage bill by slightly over £160,000 a week.

Sir Reginald Hill's New Year Message to Docks & Inland Waterways Staff.—In a New Year message to the staff Sir Reginald Hill, Chairman, Docks & Inland Waterways Executive, stated that they had been able in 1951 to expand their tonnages of other commodities to compensate for the loss of coal shipments. The quickest possible discharge and loading of ships was of great importance, to cut down the cost of imports. As scarcity of materials limited the replacement of old or inadequate equipment, they had to make the best of what they had, while increasing or improving resources as circumstances permitted.

Forthcoming Meetings

January 5 (Sat.).—Electric Railway Society, at the Fred Tallant Hall, Drummond Street, N.W.1, at 3 p.m. "A Pictorial Survey of the Electric Railways of Holland and Belgium," by Mr. G. W. Morant.

January 7 (Mon.).—Institute of Transport, Metropolitan Section, at 80, Portland Place, at 6 p.m. "The Complementary Use of Rail and Road Transport for Freight Traffic," by Mr. A. A. Harrison.

January 7 (Mon.).—Historical Model Railway Society, at the headquarters of the Stephenson Locomotive Society, 32, Russell Road, W.14, at 7 p.m. "Some Experiences with Gauge 1" Garden Railways," by Lord Northesk.

January 8 (Tue.).—Institution of Mechanical Engineers, Storey's Gate, Westminster, S.W.1, at 5.30 p.m. Automobile Division General Meeting: "Stability of Single-Track Vehicles," by Mr. R. A. Wilson-Jones.

January 8 (Tue.).—Permanent Way Institution, Leeds Section, at the Leeds Church Institute, Albion Place, Leeds 1, at 7 p.m. "My Recent Visit to the U.S.A. and the Practices and Observations Noted Over There," by Mr. A. Dean.

January 9 (Wed.).—Institute of Transport, Southern Section, at the Harbour Offices, Southampton, at 5.45 p.m. "Life in two Railway Regions," by Mr. C. P. Hopkins.

January 9 (Wed.).—Institution of Railway Signal Engineers, at the Institution of Electrical Engineers, Savoy Place, W.C.2, at 6 p.m. "Special Signalling for Speed Restrictions," by Mr. W. Owen.

January 9 (Wed.).—Railway Students' Association, London School of Economics & Political Science, Houghton Street, W.C.2, at 6 p.m. Exhibition of Canadian Travel Films, by Canadian Pacific Railway.

January 10 (Thu.).—Irish Railway Record Association. "Engineering and Permanent Way," by Mr. Plumer.

Railway Stock Market

It is generally agreed that it is difficult to predict the outlook for stock markets in 1952 because of so many unknown factors, and uncertainty as to whether there is to be a further Bank rate increase may persist for the time being, while in addition there is E.P.T. uncertainty. It is still being widely assumed that the rate and details of this new tax are unlikely to be announced until the Budget; and it is recognised that in any case E.P.T. will limit the scope for higher dividends materially. Nevertheless, despite these factors, there is a widespread belief that markets would respond strongly to favourable news, such as a successful outcome of the visit of Mr. Churchill to the United States.

Owing to the caution and uncertainty which has prevailed, investors have been keeping out of the markets, with the result that there has been an accumulation of funds awaiting a favourable opportunity for investment. In many quarters it is argued that 1952 will be a year of adjustment in markets. A position has now been reached, for example, when War Loan yields over 4½ per cent., and yields on some industrial shares are only fractionally above this rate. In general, it would seem that many industrial shares may prove to be overvalued unless there are higher dividend prospects, and this may depend on how drastically E.P.T. hits profits.

Reference was made a week ago to the highest and lowest prices recorded in 1951 by leading foreign railway stocks. This week there has been a firmer tendency, particularly in Antofagasta which were helped by latest traffic figures, though elsewhere United of Havana stocks receded a little after their recent rally, and the 1906 debentures were back to 19. Otherwise, apart from Canadian Pacifics which remained prominent in a further rise in Canadian securities, including Hudson's Bay, foreign rails were steady but generally featureless this week.

Leopoldina have kept firm in anticipation of the pay-outs for these stocks, which, however, will have to await the various formalities that have to be completed. In general the market expects that stockholders will receive in all slightly more than the current market prices for their stocks. At the time of writing Leopoldina ordinary is quoted at 11, the pre-

ference stock at 28, the 6½ per cent. debentures at 150 and Leopoldina Terminal 5 per cent. debentures at 105. Leopoldina Terminal ordinary units have remained at 1s. 7½d. and elsewhere San Paulo 10s. ordinary units have rallied to 15s. 6d.

Compared with a year ago Antofagasta ordinary has risen from 64 to 19, and the preference stock from 42 to 71½. The market is still assuming that it may be possible to devise a funding scheme of some kind to clear off the remaining arrears of preference dividend. Canadian Pacific current level of 70 compares with 44½ a year ago, but the preference stock has fallen on the year from 75½ to 67½ and the 4 per cent. debentures from 99½ to 81. The fall in the preference stocks and debentures reflects the general decline in fixed-interest securities of all kinds, which move closely with the general trend in British Funds. On the other hand Manila "A" debentures have risen to 74, compared with 60 a year ago, which reflects the hope of developments which might lead to a pay-out for stockholders. Mexican Central "A" debentures have also been favoured, and compared with a year ago have risen to 83, which compares with 46½ a year ago. Taltal shares are now 18s. compared with 15s. 9d. The above suffice to illustrate that foreign rail stocks can still show a good deal of movement over a period and are not always without scope for capital appreciation. In respect of 1952 the market expects that Canadian Pacifics will remain prominent; also Antofagasta, Mexican Central debentures, and Manila bonds. Securities of this kind might come in for increased attention it is suggested because they are outside E.P.T., which if it were at 100 per cent. could bear heavily on industrial investments.

Vickers are now 45s. 7½d.; a year ago they were 35s. 6d. Compared with a year ago, Guest Keen have risen from 35s. 6d. to 53s. 9d., and in this case highest and lowest prices recorded in the past twelve months were 56s. and 35s. 3d.

Among shares of locomotive builders and engineers, Beyer Peacock are now 22s. 6d.; at one time in the past twelve months they were up to 35s. Extreme levels for Vulcan Foundry in 1951 have been 32s. 3d. and 24s. 3d.; the current price is 25s. 6d. North British Locomotive, to take another example, are now 18s. 9d., and highest and lowest in 1951 were 24s. and 18s. 3d., respectively.

Traffic Tab'e of Overseas and Foreign Railways

Railway	Miles open	Week ended	Traffic for week		1950/51	Aggregate traffic to date	
			Total this year	Inc. or dec. compared with 1949/50		1950/51	Increase or decrease
South & Cen. Amer.							
Antofagasta	811	21.12.51	£156,810	+ 53,380	51	£6,386,340	+ 2,793,806
Costa Rica	281	Oct., 1951	cl.244,055	+ c228,863	18	cl.497,302	+ c586,239
Dorada	70	Oct., 1951	36,894	- 515	43	361,117	- 30,116
Inter. Ctl. Amer.	794	Oct., 1951	992,854	- 18,705	43	cl.10,938,552	- 262,880
Paraguay Cent.	274	21.12.51	cl.377,138	+ cl.154,492	25	cl.8,534,364	+ cl.3,454,290
Peru Corp.	1,050	Nov., 1951	cl.7,902,000	+ cl.325,000	22	cl.40,800,000	+ cl.2,017,000
" (Bolivian Section)	66	Nov., 1951	cl.16,086,000	+ cl.2,474,000	22	cl.75,805,000	+ cl.19,219,000
Salvador	100	Oct., 1951	cl.14,000	+ cl.27,000	18	cl.495,000	+ cl.40,000
Taltal	147	Nov., 1951	cl.2,177,000	+ cl.155,600	22	cl.10,120,000	+ cl.2,298,300
Canada	23,473	Oct., 1951	18,728,000	+ 664,000	43	172,143,000	+ 21,892,000
Canadian National	17,037	Oct., 1951	13,467,000	+ 1,218,000	43	1,218,000	+ 15,250,000
Various							
Barai Light*	167	Nov., 1951	37,957	+ 6,607	33	284,050	+ 48,667
Egyptian Delta	607	10.4.51	17,513	- 267	4	17,513	- 267
Gold Coast	536	Aug., 1951	220,509	+ 16,972	21	1,280,126	+ 109,832
Mid. of W. Australia	277	Oct., 1951	72,767	+ 30,311	18	24,663	+ 89,350
South Africa	13,398	24.11.51	2,055,209	+ 157,422	34	64,915,712	+ 7,242,701
Victoria	4,744	Aug., 1951	1,931,917	+ 45,412	9	—	—

* Receipts are calculated at 1s. 6d. to the rupee

† Calculated at \$3 to £1